California Marine Life Protection Act Initiative
Central Coast Regional Stakeholder Group

CCRSG MPA Package 1

Map: North Central Coast Study Region

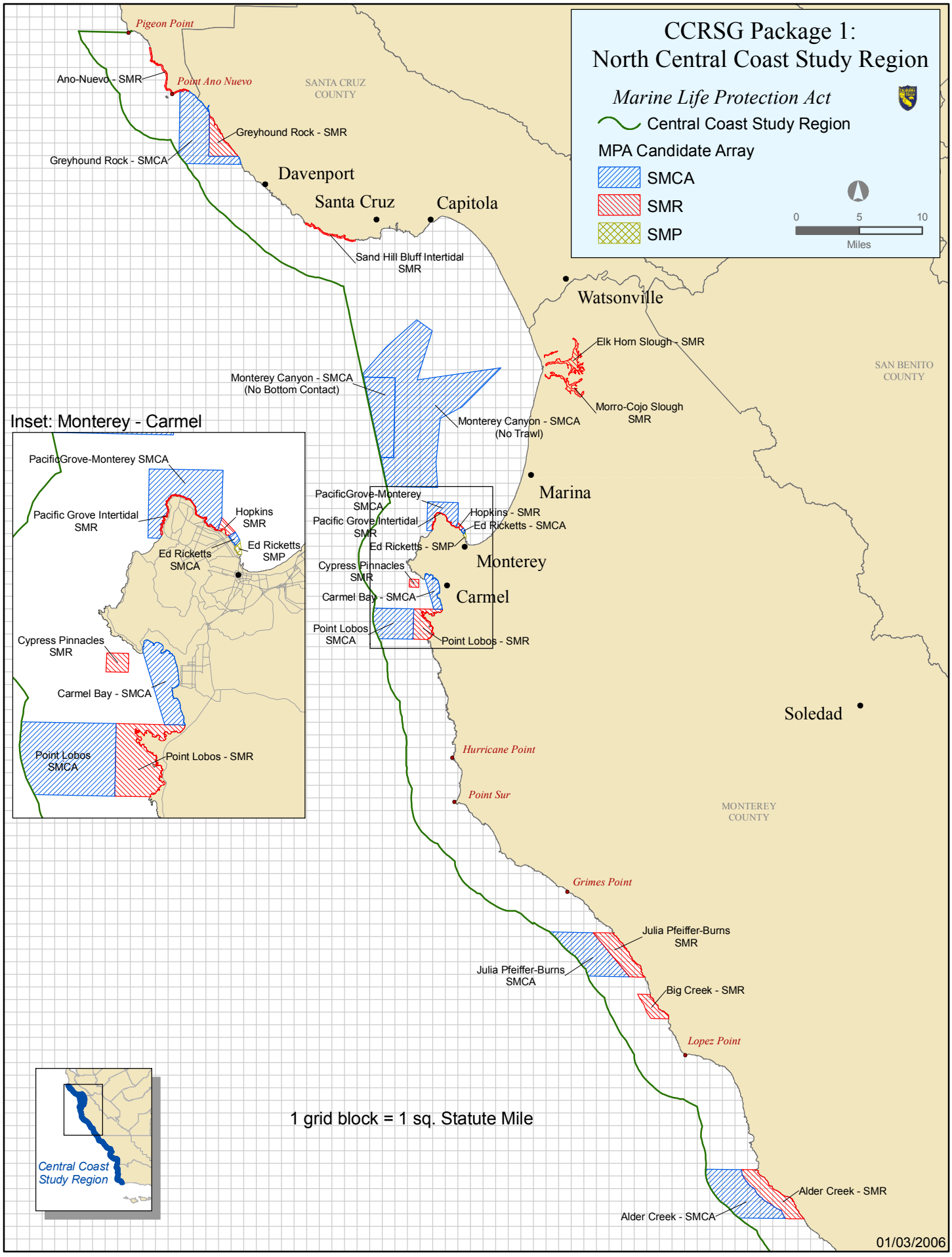
Map: South Central Coast Study Region

Staff Summary of Area and Habitats

Proponents' Rationale

Proponents' Summary Matrix of Individual MPAs

Updated January 23, 2006


CCRSG Package 1:
North Central Coast Study Region
Marine Life Protection Act
Central Coast Study Region
MPA Candidate Array
SMCA
SMR
SMP
0
5
10
Miles
Pigeon Point
Ano-Nuevo - SMR
Point Ano Nuevo
SANTA CRUZ COUNTY
Greyhound Rock - SMR
Greyhound Rock - SMCA
Davenport
Santa Cruz
Capitola
Sand Hill Bluff Intertidal SMR
Watsonville
Elk Horn Slough - SMR
SAN BENITO COUNTY
Monterey Canyon - SMCA (No Bottom Contact)
Morro-Cojo Slough SMR
Monterey Canyon - SMCA (No Trawl)
Inset: Monterey - Carmel
PacificGrove-Monterey SMCA
Pacific Grove Intertidal SMR
Hopkins SMR
Ed Ricketts SMCA
Ed Ricketts SMP
Cypress Pinnacles SMR
Carmel Bay - SMCA
Point Lobos SMCA
Point Lobos - SMR
Marina
Hopkins - SMR
Ed Ricketts - SMCA
Monterey
Carmel
Soledad
Hurricane Point
Point Sur
MONTEREY COUNTY
Grimes Point
Julia Pfeiffer-Burns SMR
Julia Pfeiffer-Burns SMCA
Big Creek - SMR
Lopez Point
Central Coast Study Region
1 grid block = 1 sq. Statute Mile
Alder Creek - SMR
Alder Creek - SMCA
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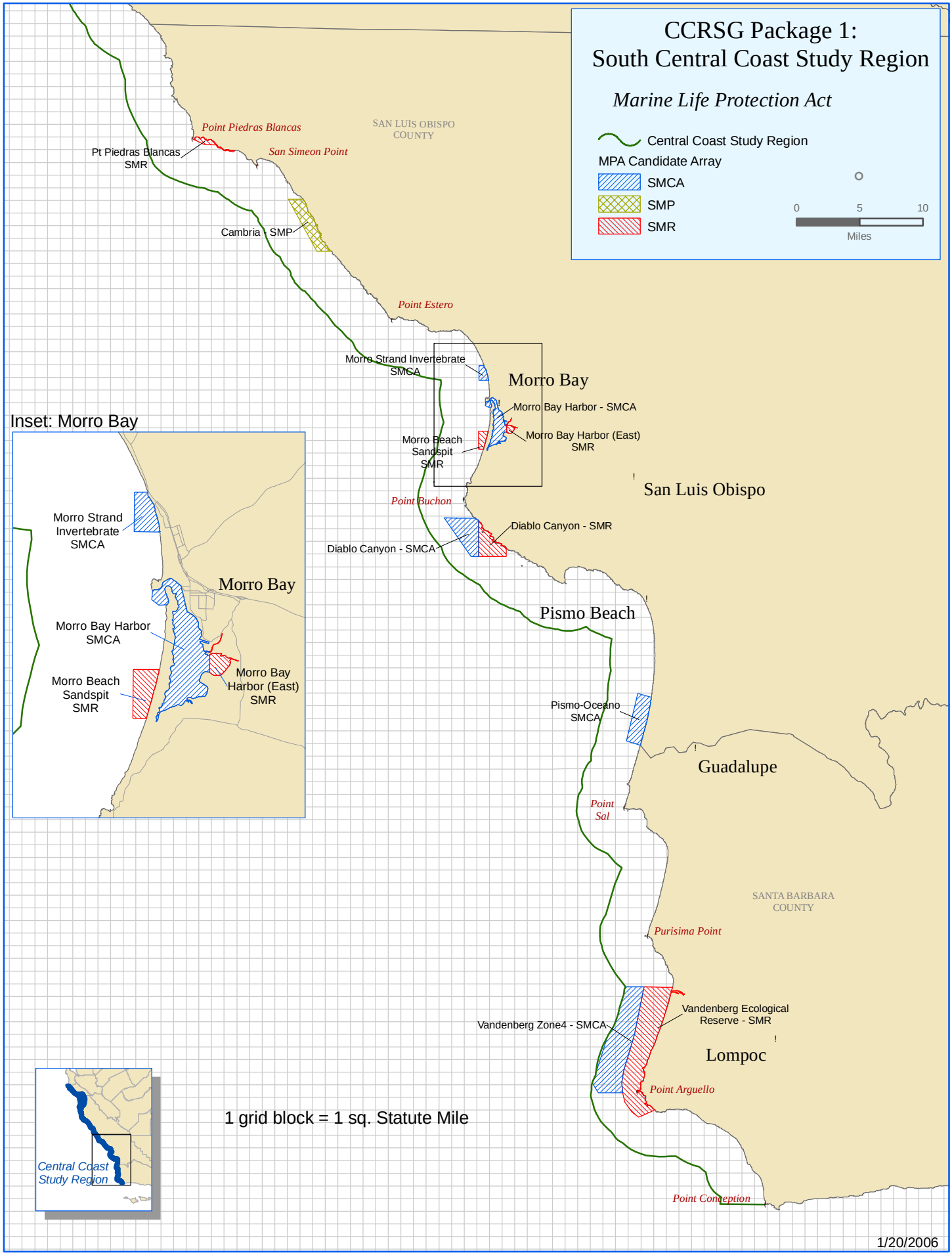
CCRSG Package 1:
South Central Coast Study Region
Marine Life Protection Act
Central Coast Study Region
MPA Candidate Array
SMCA
SMP
SMR
0
5
10
Miles
SAN LUIS OBISPO COUNTY
Point Piedras Blancas
Pt Piedras Blancas SMR
San Simeon Point
Cambria - SMP
Point Estero
Morro Strand Invertebrate SMCA
Morro Bay
Morro Bay Harbor - SMCA
Morro Bay Harbor (East) SMR
Morro Beach Sandspit SMR
San Luis Obispo
Point Buchon
Diablo Canyon - SMR
Diablo Canyon - SMCA
Pismo Beach
Pismo-Oceano SMCA
Guadalupe
Point Sal
SANTA BARBARA COUNTY
Purisima Point
Vandenberg Ecological Reserve - SMR
Vandenberg Zone4 - SMCA
Lompoc
Point Arguello
Point Conception
Inset: Morro Bay
Morro Strand Invertebrate SMCA
Morro Bay
Morro Bay Harbor SMCA
Morro Beach Sandspit SMR
Morro Bay Harbor (East) SMR
Central Coast Study Region
1 grid block = 1 sq. Statute Mile
1/20/2006

Marine Life Protection Act Initiative
Central Coast Project
Staff Summary of Area and Habitats in Package 1
January 23, 2006

Overall Summary for Package 1 (12/15/05 version)

Type of MPA proposed	# Proposed	Area (mi^2)	% of Study Region
State Marine Reserve (SMR)	17	49.42 mi^2	4.30%
State Marine Park (SMP)	2	4.48 mi^2	0.39%
State Marine Conservation Area (SMCA)	14	148.05 mi^2	12.87%
All MPAs combined	33	201.94 mi^2	17.56%

Individual MPAs in Package 1 (12/15/05 version)

MPA Name	Size (mi^2)	Along-shore span (mi)	Depth range (ft)
Ano Nuevo SMR	0.60 mi^2	5.6 mi	0-13 ft
Greyhound Rock SMCA (*)	13.72 mi^2	7.6 mi	0-212 ft
Greyhound Rock SMR	3.64 mi^2	4.0 mi	0-138 ft
Sand Hill Bluff Intertidal SMR	0.49 mi^2	4.2 mi	0-10 ft
Elkhorn Slough SMR	1.59 mi^2	7.0 mi	0-10 ft
Moro Cojo Estuary SMR	0.82 mi^2	7.6 mi	0-10 ft
Monterey Submarine Canyon No Bottom Contact SMCA (***)	11.07 mi^2	6.3 mi	1453-4838 ft
Monterey Canyon No-Trawl SMCA (*)	55.87 mi^2	13.3 mi	286-3971 ft
Ed Ricketts SMP (^)	0.07 mi^2	0.3 mi	4-41 ft
Ed Ricketts SMCA (*)	0.08 mi^2	0.4 mi	3-56 ft
Hopkins SMR	0.15 mi^2	0.4 mi	3-71 ft
Pacific Grove Intertidal SMR	0.12 mi^2	3.5 mi	0-10 ft
Pacific Grove – Monterey SMCA (*)	3.71 mi^2	3.6 mi	3-237 ft
Cypress Pinnacles SMR	0.47 mi^2	0.9 mi	69-223 ft
Carmel Bay SMCA (*)	2.16 mi^2	3.2 mi	3-471 ft
Pt. Lobos SMCA (**)	7.43 mi^2	2.4 mi	228-1858 ft
Point Lobos SMR	3.37 mi^2	3.7 mi	0-320 ft
Julia Pfeiffer Burns SMR	5.18 mi^2	4.3 mi	3-498 ft
Julia Pfeiffer Burns SMCA (**)	11.12 mi^2	4.3 mi	206-2227 ft
Big Creek SMR	2.26 mi^2	2.4 mi	0-264 ft
Alder Creek SMR	6.86 mi^2	5.4 mi	3-192 ft
Alder Creek SMCA (***)	13.52 mi^2	5.4 mi	131-1316 ft
Point Piedras Blancas SMR	0.72 mi^2	3.3 mi	0-55 ft
Cambria SMP (^)	4.41 mi^2	4.7 mi	0-102 ft
Morro Strand Invertebrate SMCA (*)	0.70 mi^2	1.2 mi	3-54 ft
Morro Bay Harbor SMCA (*)	2.97 mi^2	7.0 mi	0-18 ft
Morro Bay East SMR	0.32 mi^2	1.5 mi	0-10 ft
Morro Beach Sandspit SMR	0.85 mi^2	1.4 mi	0-53 ft
Diablo Canyon SMR (***)	3.45 mi^2	3.7 mi	0-190 ft
Diablo Canyon SMCA (*)	5.03 mi^2	4.1 mi	3-249 ft

Individual MPAs in Package 1 (12/15/05 version) - continued

Pismo-Oceano Invertebrate SMCA (*)	4.61 mi^2	3.9 mi	0-67 ft
Vandenberg SMR	18.53 mi^2	10.8 mi	0-98 ft
Vandenberg Danger Zone 4 SMCA (***)	16.08 mi^2	8.8 mi	95-216 ft

Symbols following proposed MPA name indicate level of protection as determined by the Master Plan Science Advisory Team. (***) indicates SMCA High, (**) indicates SMCA Moderate, (*) indicates SMCA Low, and (^) indicates SMP Low.

Habitat Representation in Package 1 (12/15/05 version)

	Percentage of habitat in proposed MPA designations in the study region [1]			
Habitat	**SMR**	**SMP**	**SMCA**	**Total MPAs**
Intertidal				
Sandy or gravel beaches	16.90%	1.65%	6.34%	24.88%
Rocky intertidal and cliff	25.51%	1.54%	2.77%	29.82%
Coastal marsh	56.04%	1.04%	14.40%	71.48%
Tidal flats	59.76%	0.64%	22.15%	82.55%
Seagrass beds (0-30m): Surfgrass	29.47%	2.41%	2.78%	34.66%
Seagrass beds (0-30m): Eelgrass	2.80%	0.00%	96.92%	99.71%
Estuary	33.27%	0.20%	31.03%	64.50%
Soft bottom				
0-30 meters	9.75%	1.16%	4.53%	15.44%
30-100 meters	2.38%	0.03%	7.40%	9.81%
100-200 meters	0.00%	0.00%	31.00%	31.00%
>200 meters	0.00%	0.00%	42.76%	42.76%
Hard bottom				
0-30 meters	9.95%	1.56%	7.55%	19.06%
30-100 meters	3.33%	0.00%	6.72%	10.05%
100-200m	0.00%	0.00%	68.05%	68.05%
>200 meters	0.00%	0.00%	72.29%	72.29%
Kelp forest				
Average kelp ('89, '99, '02, '03)	13.83%	4.32%	6.19%	24.34%
Persistent kelp	25.17%	6.61%	7.87%	39.64%
Submarine canyon				
0-30 meters	1.77%	0.00%	30.09%	31.86%
30-100 meters	0.90%	0.00%	5.20%	6.11%
100-200 meters	0.00%	0.00%	26.57%	26.57%
>200 meters	0.00%	0.00%	63.12%	63.12%

[1] *Note: These are proposed MPA designations, NOT levels of protection assigned by the SAT.*

January 6, 2006

Mr. Phil Isenberg, Chair
MLPA Blue Ribbon Task Force
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Dear Chairman Isenberg:

On behalf of our CCRSG coalition of commercial and recreational fishermen, kelp harvesters and abalone farmers, skin divers, and regional harbormasters representing their coastal communities, and also with the full support of the extensive membership of the California Fisheries Coalition, we present to the BRTF a proposal for a comprehensive network of Marine Protected Areas in the Central Coast study region. As you will see from the details to follow, our proposal meets all of the guidelines of the Science Advisory Team (SAT), all of the goals and objectives adopted by the Blue Ribbon Task Force, and all of the requirements of the Marine Life Protection Act (MLPA).

Thesis; Antithesis; Synthesis

The development of this proposal has required enormous commitment and cooperation from a diverse set of stakeholders who might not ordinarily share mutual goals. It also represents an evolution of thinking, as our members grew to understand both the science and the societal values expressed in the MLPA. We have, therefore, taken our own knowledge and values and weighed them against the values of others within the regional stakeholder group, and as expressed by the State, and synthesized these into a remarkable, well-balanced proposal.

Unlike the other proposals that are being presented, the fishermen's network package DOES successfully provide a balanced approach. In short, our proposal represents the creative synthesis that allows the State to have both ecosystem protection and a substantial network of unique MPAs set aside for future generations that also provides for enhanced scientific research and recreational opportunities while simultaneously conserving the traditional business enterprise of fishermen and other harvesters, and supporting the economies and social structure of ocean-dependent coastal communities as mandated in Governor Schwarzenegger's ocean action plan.

A Spirit of Sharing

Considering that the MLPA is intended to benefit ALL of the people of California, our group adopted a policy of sharing resources as much as possible while, at the same time, spreading out social and economic pain as evenly as we could across user groups. For example, while meeting MLPA requirements to protect key habitats, we employed a sharing philosophy when the issues centered around imagined or real user conflicts in a given area, and where multiple choices existed between two similar habitats.

Regarding sharing the pain that comes with change, our group also sought to distribute socio-economic impacts equitably. Therefore, when our network is viewed as a whole, there is a proportional degree of loss of usable territory for commercial fishermen, recreational fishermen, spear fishermen, kelp harvesters, and in aggregate, coastal communities. Within commercial fishing, there are also competing interests based on gear types. We also tried to spread out the costs among these groups, although it must be noted that nearshore fishermen suffered the greatest impact because of the nearshore habitat requirements of the Act.

Conservation versus Consumption…a False Dichotomy

We want to draw attention to the fact that this process seems to be making a distinction between our proposal and "conservation" proposals. This is a false distinction. Fishermen and other resource harvesters have a more direct long-term interest in a healthy and sustainable marine environment than do any other special interest groups – their livelihoods or recreational pastimes depend on it. Through our careful selection of key habitats, larval retention areas and upwelling zones, we have tried to maximize the conservation value of these MPAs. We argue, therefore, that the fishermen's network is more thoughtfully conservationist than the other network proposals. We also point out that the other packages appear to be adopting a "more is better" attitude toward marine reserves, which is not necessarily true. In fact, knowledgeable fishery scientists argue that establishing MPAs for designated groundfish stocks, which are now strictly managed under existing fishery management plans, could actually hurt the future management of those species by confounding catch per unit effort estimates and significantly increasing uncertainty in the stock assessment models.

Like any medicine, for MPAs to be used effectively, even as applied to protecting biodiversity, they must be thoughtfully applied for the right reasons, to the right areas, and in the right amount – and with adequate long-term field studies to test and "prove" assumptions. MPA science is still largely theoretical, and the "right" size is still arbitrary, a policy decision, until proven by empirical research in the field. The fishermen's network provides numerous research opportunities. A large system of poorly managed, monitored, and enforced "paper parks" will not serve the interests of the State, and will contradict the goal of the Act to establish a coordinated network.

Fishermen Bring Empirical Knowledge to this Plan

Fishermen and other resource harvesters, as well as harbormasters who have spent careers working at sea and on the waterfront, bring a level of knowledge to the task of designing a system of MPAs that cannot be equaled by other proponents. This is specialized knowledge of:

- Habitats – Commercial and recreational fishermen and spear fishermen have detailed knowledge of where to find fish, which relates directly to their habitat. Fishermen's local knowledge has already improved many scientific surveys.
- Species – Our group has knowledge of which species will be present in an area and, in many cases, can account for their movements throughout the year and in multi-year cycles. When your livelihood depends on this knowledge, you tend to be a good student.

- Monitoring – Our members have already been instrumental in suggesting, setting up, and participating in monitoring programs for the Channel Islands and the central coast, and/or having their vessels used for monitoring. In the Monterey Bay area, ongoing “straight talk” discussions between the fishing and science communities now consider collaborative studies, including monitoring. Fishermen can contribute valuable insight and science study questions in this process.
- Enforcement – The fishing community can be instrumental in adding their eyes and ears on the water for effective enforcement. If fishermen have a plan that they believe in, that will also insure their support, which will create its own level of effective enforcement.
- Knowledge of costs – Fishermen and other resource harvesters immediately know which areas will cost them dearly and which areas will cost the environment dearly through a displacement of effort.
- Affordability – Fishermen have designed an MPA network, utilizing their knowledge of the resources and boating/monitoring expenses, that delivers conservation benefits to the State as efficiently as possible. This practical “workaday” knowledge is not present in any other group’s proposals.

We Have Worked With Others

Our group has sought to work with the other special interest RSG members and, in fact, a substantial part of the fishermen’s network package was proposed to address the interests of others. We have documented a long list of modifications to our plan based on the input from other RSG members. These include:

1. Adding Sandhill Bluff Intertidal Marine Reserve to serve UCSC.
2. Extending the boundary of Elkhorn Slough to the Highway Bridge, at the request of environmental organizations, and at a cost to recreational fishermen.
3. Adding Moro Cojo Slough as a Marine Reserve at the request of environmental organizations.
4. Providing MPA status and eventually Marine Park status to the Cannery Row area in the Monterey Peninsula, including the elimination of a squid harvest area and the prohibition of spear fishing in part of this area, to accommodate non-consumptive divers.
5. Adding Pacific Grove Intertidal State Marine Reserve to accommodate the interests of the Pacific Grove citizens. We were the first to propose this.
6. Changing the Carmel Bay State Marine Conservation Area in part to the Pinnacles State Marine Reserve to accommodate the wishes of nonextractive divers, and at a cost to recreational anglers and spear fishermen.
7. Enlarging Point Lobos State Marine Reserve and recommending that the State Park increase the number of day passes per day, both for the benefit of non-consumptive divers and at a cost to recreational anglers and spear fishermen.
8. Proposing two iterations of our Julia Pfeiffer- Burns SMR/SMCA complex in response to advice from both SAT members and DFG staff.
9. Maintaining the Big Creek Reserve “as-is” based on feedback from marine biologists familiar with the site and its history of monitoring.
10. Expanding our Alder Creek complex northern boundary all the way up to Cape San Martin in response to concerns from other RSG members that we “didn’t include any points” in our proposal, at a significant cost to fishermen.

11. Adding a Marine Reserve at Point Piedras Blancas to address concerns Expressed by Package 2 & 3 proponents for the marine mammals and birds in that area.
12. Modifying our Cambria State Marine Park proposal several times in an attempt to balance the concerns of local recreational fishermen with commercial fishermen.
13. Modifying the existing Pismo Clam and Invertebrate Preserves in Morro Bay and Pismo Beach based on feedback received from the SAT, DFG staff, other RSG members, and local civic leaders.
14. Adding a State Marine Reserve within Morro Bay to address citizen interests.
15. Modifying our Pt. Arguello complex to better protect habitats in less than 15 fathoms based on concerns from Package 3 proponents that we didn't have sufficient protection in the Vandenberg area.

These modifications were developed through a long series of small group or individual meetings with the proponents of the other Packages, as well as from listening carefully to the discussions at the CCRSG meetings. We also had several conversations with individual SAT members on the MPF Guidance.

Aquaculture & Kelp

The Central Coast study region is home to four abalone aquaculture businesses: two on-shore farms, one located in Davenport and one in Cayucos, and two in the ocean farms located in Monterey harbor. These businesses have been harvesting kelp to feed their abalone for at least 13 years, in the case of the youngest farm, and for 37 years for the oldest. Other harvesters of kelp include the herring-roe-on-kelp industry. This group hangs kelp from rafts in locations where herring spawn and cover it with layers of eggs. The blades of roe-covered kelp are processed and sold in international markets. Giant kelp, Macrocystis pyrifera, is the only food source used for commercial production of farmed abalone in California, and is the fastest growing plant on earth, with recorded growth of up to 4 feet per day under ideal conditions.

Like other user groups, kelp harvesters access the marine environment through harbors, and depend on resources located within safe and economically viable distances from those harbors. Within the study area, Santa Cruz, Monterey, Morro Bay and Port San Luis are the harbors used by kelp harvesters. The CCRSG spent a great deal of time and effort trying to resolve the desires for MPA's around the Monterey Peninsula. The need for access to safe and economically viable kelp resources, especially in the winter months, was one factor in those deliberations. Kelp beds that persist through winter are found along Cannery Row, and from Lover's Cove to Pt. Piños. Both of these beds are critical and are absolutely necessary to sustain abalone aquaculture and herring-roe-on-kelp throughout the winter.

If kelp harvesting is prohibited in any of the currently harvested areas, it will then be concentrated in the others, resulting in precisely the kinds of impacts all users seek to avoid. Kelp shortages and unacceptable impacts would precipitate the closure of local abalone farms.

The Monterey harvesters authored the Monterey Kelp Harvesting Cooperative plan in 1997, in conjunction with the City of Monterey, City of Pacific Grove, Monterey Bay National Marine Sanctuary, and Department of Fish and Game, among others. The Cooperative has been very successful in promoting communication and cooperation

amongst harvesters, the Department, and all concerned parties and promoting a sustainable environment. The health of kelp bed 220 off Cannery Row and Pacific Grove is as productive as it has ever been. There is absolutely no scientific data supporting the need to change present kelp harvesting practices.

Balancing Diverse Interests

The nearshore area of the Monterey Peninsula attracts a greater diversity of user groups than any other area on the central or north coast. Because of its beauty and the unique opportunities it offers, it attracts recreational fishermen, spear fishermen, commercial fishermen, underwater photographers, recreational divers, scientists, and educators.

The resources in this area remain abundant. As one example, the Central California Council of Dive Clubs (CENCAL) has held annual spear fishing contests on the peninsula for more than 45 years. Over that period new regulations have reduced daily bag limits and yet, according to Fish and Game records, catches per diver hour have remained relatively consistent, attesting to the abundance and resilience of the area's resources. To further that point, in 2002 the National Spear Fishing Championships were held at Carmel Bay, as they had been since the late 1950's. Amazingly, even though the limit on lingcod had been reduced from four fish to two, rockfish from fifteen to ten, with other species' limits similarly cut back, record scores were posted. The same thing occurred in 2004 when a CENCAL spear-fishing contest was held at Pacific Grove and again, record scores were posted.

Not only does the peninsula provide abundant resources to fishermen and wildlife viewers, it also provides a safe place for them to pursue their interests. During periods of heavy surf conditions, there's almost always some place that divers and fishermen can tuck into, safe from the rough conditions. If a large swell is coming from the south or southwest, the north side of the peninsula along the Pacific Grove and Monterey coastline is protected. If it's coming from the north or northwest, then safe haven may be found at Stillwater Cove and parts of Carmel Bay. There are other areas to the north and south of Monterey that afford some protection from bad conditions, but they are far and few between, more difficult to access, and much smaller.

The Monterey Peninsula has a history of providing for a diversity of uses and opportunities that spans many years and many different heritages. Any proposal that fails to take that history into account also fails to fulfill the mission of the MLPA. The accepted interpretation of the Act is expressed in the Regional Goals and Objectives that were adopted by the CCRSG and the BRTF. That document recognized that strategies for protecting the integrity of marine ecosystems must also take into account socioeconomic concerns to the degree possible.

In contrast to Package 1, the CCRSG's Package 2 and Package 3 proposals fail to balance ecosystem goals with socioeconomic concerns. In addition, they fail to address the needs of all of the Monterey peninsula's historically diverse user groups. Both packages are severe in their treatment of consumptive recreational stakeholder interests. The opportunities and industries that would be jeopardized by the adoption of either of these packages are priceless and irreplaceable. Further, there is no other place on the coast where kayak fishers and spearfishers could go that would even come

close to duplicating what can be enjoyed on the Monterey Peninsula. We have voiced these concerns to the non-consumptive divers, but they have not budged in their views.

The greatest concerns that kayak-based fishermen and spear-fishermen have are access and opportunity. Using an electronic mapping system (Topo), the general contours of the peninsula's coastline have been measured. The tool also allowed the areas proposed by Packages 1, 2 and 3 to be compared, by making graphic determinations of how much opportunity currently exists versus how much would exist if any of these proposals were implemented.

If adopted, Package 2 would result in a loss of approximately 78 percent of existing kayak based fishing and spearfishing opportunities between the Breakwater and Granite Point (measured linearly). Package 3 is identical to Package 2, except that it would leave a short section of Carmel Point open and would close a slightly smaller portion of Stillwater Cove, thus leaving open approximately one half linear mile more than Package 2. If adopted it would result in a loss of approximately 74 percent of existing opportunity. Although Package 3 has been promoted by its proponents as a "moderate compromise", it is in fact quite extreme.

In comparison, even Package 1 would result in a 36.4 percent reduction in opportunity for kayak-based fishermen and spear fishermen. Although this option still represents a high impact on consumptive recreational interests, it achieves better balance among the uses of historic user groups.

We believe, and this belief is supported by scientists, that the goals of the MLPA can be accomplished without inflicting ruinous negative socioeconomic impacts that would result from siting highly restrictive MPAs in peninsula nearshore areas.

How We Meet the SAT/Master Plan Framework Guidance

The development of the Draft "Fishermen's" Proposal for the MLPA was primarily based on the guidance provided by the Science Team in the Master Plan Framework, and by the Goals and Objectives adopted for our study region. Some individual elements of this guidance appear below (in italics) followed by our comments.

"• For objectives that protect adult populations, based on adult neighborhood sizes and movement patterns, MPAs should have an alongshore span of 5-10 km (3-6 m or 2.5-5.4 nm) of coastline, and preferably 10-20 km (6-12.5 m or 5.4-11 nm). Much larger MPAs would be required if there were an expectation that marine birds, mammals, and migratory fish would be fully protected through MPAs.
• For objectives that would facilitate dispersal of important bottom-dwelling fish and invertebrate groups among MPAs, based on currently known scales of larval dispersal, MPAs should be placed within 50-100 km (31-62 m or 27-54 nm) of each other."

The approach we used was to develop closely spaced or adjacent combinations of MPAs with different protection levels that would produce a number of **'core areas'** or '**complexes'**. These core areas provide a high degree of protection to adult populations and act as larval distribution sources and sinks.

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Our proposal designed seven core MPA combinations. Most of the core areas include a combination of one or two reserves and an associated larger conservation area that protects all resident finfish and all or most invertebrates. These combinations result in large core areas that attempt to preserve important existing commercial and recreational uses while maximizing the areas protected for the resident species that are likely to benefit most from MPAs.

Our network of seven core areas has an average spacing between them of 30 miles, with the maximum spacing being 50 miles and all others less than 38 miles. The average alongshore span of each MPA complex is 6 miles with an average size of 16 sq miles. The habitat in each complex is high quality, occupies a substantial portion of available habitat in each sub-region, and in general supports like-assemblages of harvested species from one complex to the next. All MPAs within our seven core areas completely prohibit the take of groundfish.

In terms of MPA size, our network is in the middle of the SAT's sizing guidance range. In terms of MPA spacing, our network is in the most desirable end of the SAT's spacing guidance range, and provides for similar species assemblages in the six complexes that reach shore.

Our overall network includes several additional MPAs that are not included in these core areas. These include estuarine and intertidal complexes, and several MPAs that do not have conservation as their primary goals (i.e. recreational goals).

Even though our network proposal does follow Master Plan Framework guidelines, we understand, based on commentary from established fishery scientists, that size/spacing guidelines are largely based on untested larval transport theory, which to date has been neither peer reviewed nor "proven" by empirical field studies. This theory assumes no management outside MPAs, thus its basis is inherently flawed, considering strict fishery regulations now in place in California. Perhaps the biggest weakness in the larval transport theory, regarding the need for a network of MPAs, is that this theory is based on an assumption that larvae do not survive outside reserves, yet there is substantial larval production now, in the absence of extensive marine reserves. The number of species that one could make a case for being recruitment overfished is only a handful, and some of those (such as bocaccio) don't stand up to recent recruitment data. The whole idea that the central coast study region is larvally deprived is probably very weak.

"• For objectives protecting the diversity of species that live at different depths and to accommodate the movement of individuals to and from shallow nursery or spawning grounds to adult habitats offshore, MPAs should extend from the intertidal zone to deep waters offshore."

Five of our core MPA areas have MPAs extending from the shore to the edge of state waters. We protected a very large area of the Monterey Submarine Canyon; about 30 sq. nm of the canyon is placed in a no-trawl conservation area and 11 sq nm of the deepest portion of the canyon within state waters is within a no contact conservation area that will completely protect the deepwater organisms in this unique habitat.

The Julia Pfeiffer Burns reserve & adjoining conservation area is sited to include a portion of the Partington Submarine Canyon and to be adjacent to the federal no

trawling area that extends to the edge of state waters in this area. This combination provides continuous protection to benthic organisms from the shore to 50 nm offshore.

We also paid special attention to the critical intertidal zone. We protected several extensive alongshore areas by placing or supporting intertidal reserves at Ano Nuevo, Sand Hill Bluff, Pacific Grove, Piedras Blancas, Morro Bay, and Pismo Beach. In addition, intertidal, littoral and benthic invertebrates are protected in most of the proposal's conservation areas.

"• For objectives of protecting the diversity of species that live in different habitats and those that move among different habitats over their lifetime, every 'key' marine habitat should be represented in the MPA network.
• For an objective of providing analytical power for management comparisons and to buffer against catastrophic loss of an MPA, at least three to five replicate MPAs should be designed for each habitat type within a ***biogeographical*** *region."*

We include every key marine habitat. Our evaluation of replicate MPAs show that most of the common habitat types in the Central Region have more than 5 replicates and nearly all have at least 3 replicates. This substantially exceeds the SAT guidance for replicates, particularly considering that MLPA statute requirements for replicates apply to the entire bioregion, rather than just the central coast.

"• For an objective of lessening negative impact while maintaining value, placement of MPAs should take into account local resource use and stakeholder activities.
• Placement of MPAs should take into account the adjacent terrestrial environment and associated human activities."

The Fishermen's proposal achieves a network that provides resource protection, minimizes negative impacts on stakeholders, and creates new or continuing positive socio-economic contributions. It utilizes a wide range of local stakeholder knowledge of existing protected areas (including terrestrial, estuarine and marine habitats) and existing habitats and their uses. This has resulted in a Network with more MPAs than were originally expected, but it has also resulted in a wide range and complexity of protection levels. This has not been without controversy, and sacrifice, on the part of our members.

The Pacific Fisheries Management Council has approved major groundfish conservation areas along the entire West Coast. Our proposal has utilized two of these conservation areas to provide enhanced protection. We sited two conservation areas in state waters portions of the Federal Monterey Bay Conservation Area (i.e. the no bottom contact Monterey Deep Canyon Conservation Area and the no trawling Monterey Canyon Conservation Area) and we placed an MPA adjacent to the Federal Conservation area that extends southwards in Federal waters from Point Sur (i.e. Julia Pfeiffer Burns Conservation Area and Reserve)

"• For objectives of facilitating adaptive management of the MPA network into the future, and the use of MPAs as natural scientific laboratories, the network design should account for the need to evaluate and monitor biological changes within MPAs."

We recognize that there is considerable controversy, and little available scientific information available, concerning the relative merits of no take MPAs vs. MPAs that allow the take of non-resident predators, non-resident forage species, or high value resident invertebrates. In addition, there is little information available regarding the size that MPAs must be to provide near pristine age and size composition of exploited fishes and shellfishes. Our stakeholder proposal therefore includes 4 core MPA replicates with reserves and adjacent, highly protected conservation areas that only allow harvest of salmon and in 3 cases a single species trap fishery (spot prawn or crab). Two of the core regions have conservation areas that allow the harvest of epipelagic species (salmon and coastal pelagic species) and 1 of the core regions allows harvest of epipelagic species, Dungeness crab and recreational shore fishing. We consider this wide range of MPA combinations absolutely necessary to allow for the scientific assessment of MPAs with different protection levels.

Our proposal also supports the continuation of the well-monitored Hopkins SMR, and adds the Sandhill Bluff Intertidal SMR specifically to support educational monitoring by UCSC. It also maintains the only reserve in the area (Big Creek SMR) that has an adequate, historical baseline-monitoring program carried out in and outside of the reserve. Alteration of the present Big Creek Reserve will set the evaluation of MPAs back more than a decade.

Recent Federal Management Measures that Contribute to the MLPA and the SAT/Master Plan Framework Guidance

At the November F&G commission meeting, Commissioners supported a recommendation that any MPA network proposal include the conservation contributions provided by the RCA and other federal and state fishery management measures. To date this has not occurred in any meaningful way, apart from the following analysis that we presented at the final RSG meeting.

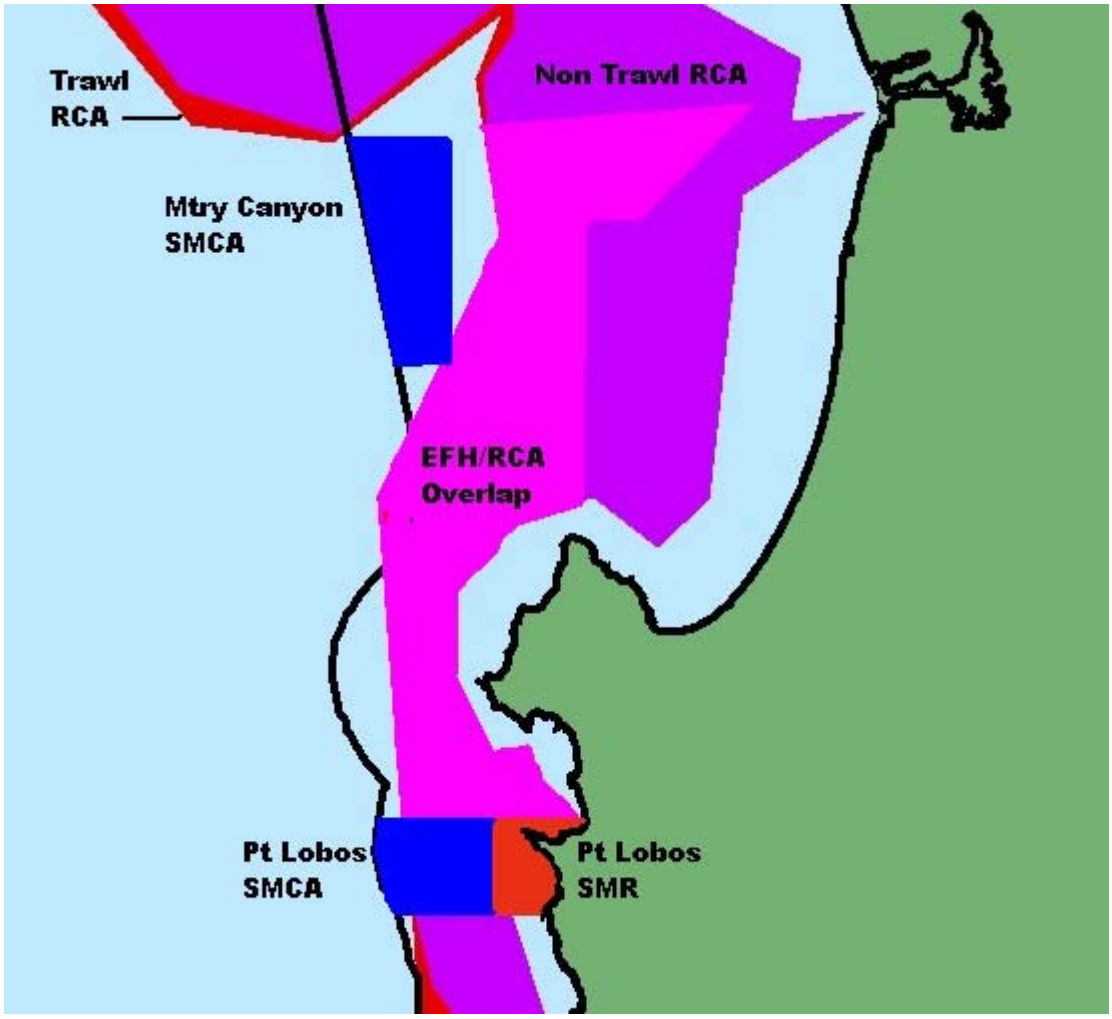
Our analysis of the RCA and EFH contributions were not exhaustive, that is to say that the contributions provided by the RCA and EFH areas are actually larger than the two examples presented here. However, we feel this is a good start.

The following criteria were used:

- We did this in a way that clearly augments nearby components of our proposed MPA network, rather than having portions of the RCA stand alone as network elements.
- We focused on portions of the RCA that had similar or greater scale than the MPAs in our network.
- We further qualified this as either year-round all gear RCA, or non-trawl RCA overlapping with the no-trawl EFH zones.

Two striking examples are presented below.

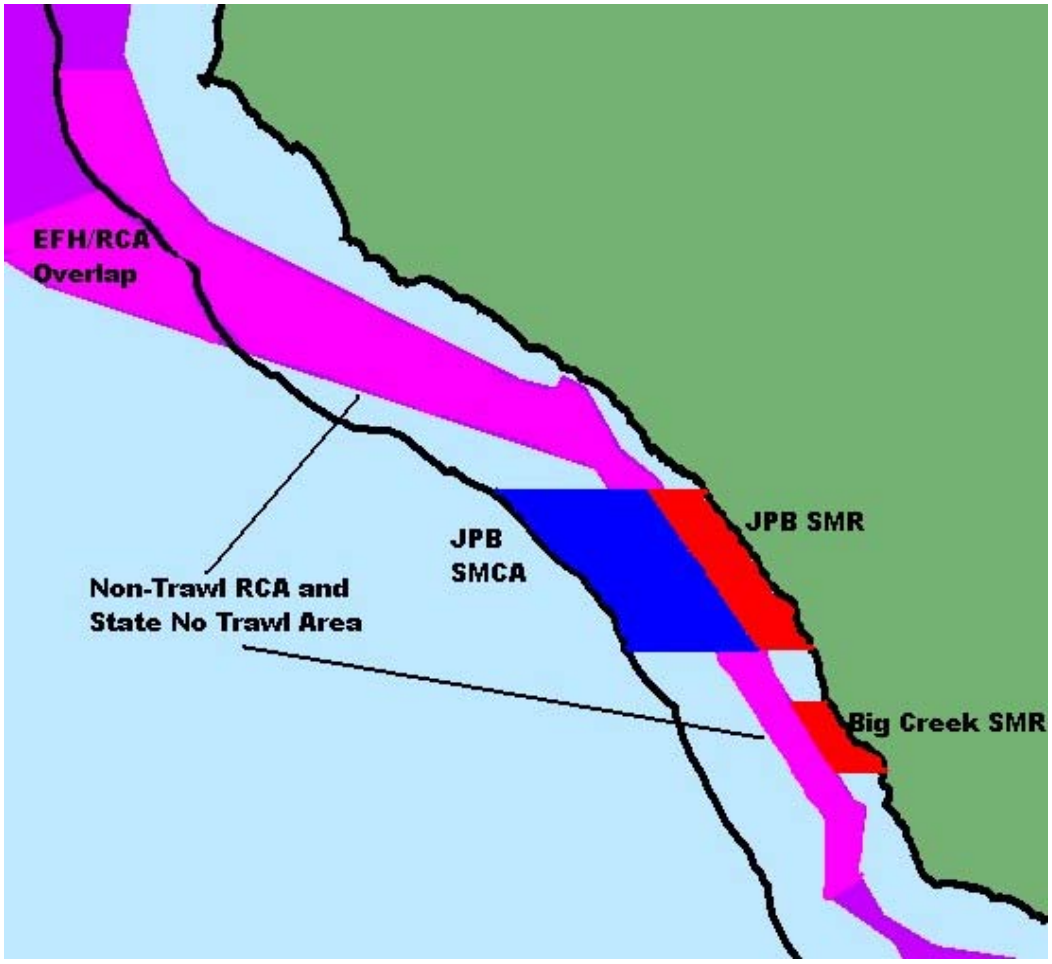
The figure below shows the region between the Monterey Canyon and Point Lobos, and the expansion of habitat protection and linkage provided by the large benthic reserve created by the overlapping EFH and Non-Trawl RCA. These figures were generated using the DFG decision support tool.



The following table shows a nearly four-fold increase in **complete** benthic protection in this region, and a 6-fold increase in complete protection of hard bottom habitat. This entire region represents a no groundfish take region.

MPA	Area (sq mi)	% of Region	Hard Bottom (sq mi)	% of Hard Bottom in the CC Study Region
Monterey Canyon	11	1%	0.9	1.15%
Pt Lobos Complex	11	1%	2.68	3.1%
Mtry to Pt Lobos Linked	**71**	**7.5%**	**22**	**26%**

The following figure shows the region between Point Sur and Big Creek reserve. In a similar exercise to the Monterey Canyon example above, we took that portion of the Non-Trawl RCA that overlaps with either the no-trawl EFH or the state waters trawl ban in this region and identified very significant additional protections already in place from Point Sur through our proposed Julia Pfeiffer Burns complex to the Big Creek Reserve. Note the alignment with the Big Creek reserve, effectively doubling the size of the benthic protection afforded at Big Creek.



This table shows the enhancement due to the combination of EFH and non-trawl RCA. In the Pt Sur region.

MPA	Area (sq mi)	% of Region	Hard Bottom (sq mi)	% of Hard Bottom in the CC Study Region
JPB Complex	13.5	1.4%	0.2	0.26%
Big Creek	1.7	02%	0.41	0.53
Pt Sur to Lopez Point Linked	**48**	**5.6%**	**5.6**	**7%**

An expanded version of this analysis should be incorporated by the SAT and I-Team into any evaluation of MPA proposals in order to pass muster with the Fish and Game Commission.

Integration with fishery management

Concurrent with the growth of the MPA movement, in recent years both state and federal laws governing fishery management have also adopted an ecosystem focus. The federal Magnuson-Stevens "Sustainable Fisheries" Act has mandated ecosystem protections in all federal FMPs. This mandate has resulted in designation of far-reaching MPAs such as the Rockfish Conservation Area and, most recently, Essential Fish Habitat areas in the groundfish FMP. In another example, the sardine harvest guideline formula in the CPS FMP allocates 150,000 mt "off the top" of the biomass estimate as forage for mammals and birds, and sets a cap on total allowable harvest. The PFMC has also approved a prohibition on krill harvesting throughout the entire west coast EEZ to protect that species, an important component of the forage pool.

Numerous state laws, many enacted since 1999, also directly affect or contribute to the ecosystem and biodiversity goals of the MLPA, including the Marine Life Management Act (MLMA), Nearshore Fisheries Management Plan (FMP), a component of the MLMA, and the Market Squid FMP, to mention a few. These laws have significantly restricted the activities of seafood harvesters in many fisheries. In fact, the number of registered commercial vessels has declined markedly in the past decade – from more than 9,000 in the early 1990s to fewer than 2,000 in 2005. Commercial passenger fishing vessels have also experienced a decline in number due in large part to ultra strict fishery management.

If a network of MPAs is implemented without also integrating fishery management as well as cultural and socioeconomic considerations, the new MPAs, layered on top of existing fishery restrictions, could very well be the proverbial "last straw" that broke the back of central coast harbor communities. The following list of fishery harvest restrictions is incomplete, but it provides some examples of existing fishery management. We hope the BRTF will invite a formal presentation of existing fishery management at an upcoming meeting to gain an understanding of how these and other fishery regulations help to achieve the goals and objectives of MLPA:

- Rockfish Conservation Area and Essential Fish Habitat have been previously discussed.
- Habitats of Particular Concern. PFMC-designated areas restrict all bottom contact gear.
- State designated No–Trawl zone prohibits trawling inside three miles, except for designated areas between one-to-three miles (i.e. Halibut Trawl Grounds from Pt. Arguello to Pt. Mugu).
- No-Driftnet fishing inside 12 miles except for white sea bass
- State prohibits Gillnet fishing within 3 miles of the mainland south of Pt. Arguello, and inside 60 fathoms from Pt. Reyes to Pt. Arguello.
- State prohibits fishing for market squid on weekends statewide.
- Market squid FMP established limited entry (reduced fleet from 164 vessels to approx. 80, with fleet capacity goal of 55) and set a max. cap. on harvest.
- State Nearshore FMP (adopted May 2002) regulations include:

  - Restricted access program (limited number of permits issued - fleet capacity goal is 34)
  - Individual size limits by species
  - Restrictive Total Allowable Catch by species (catches reduced 50-80%)
  - Gear limits on traps and hook & line
  - Prohibition on night fishing, gillnetting, trawling, long-lining
  - and other restrictions
- Restrictive state and federal groundfish regulations
- Restrictive salmon fishing season
- State krill offloading ban
- Federal prohibition on krill fishing in the EEZ
- State prohibition on taking of abalone in central and southern CA – created a de facto abalone MPA for the entire Central Coast Study Region.
- Federal Marine Mammal Protection Act protects marine mammals
- Federal and State Endangered Species Acts protect threatened and endangered species, including birds, mammals, plants
- Federal Migratory Bird Act protects seabirds.
- The NMFS Observer Program for federal groundfish and coastal pelagic species fisheries provides monitoring/research information.

During the MLPA process, we have heard more than once the claim that the Act is not about fishery management, but about "protection". Unfortunately, this is a distinction that, if acted on, will lead to grave problems for both fishery management and ecosystems. Displaced fishery effort is one such consequence. We also draw your attention to the scientific Consensus Conference (June, 2004) that dealt with this very topic, and concluded, "*Marine reserves and other protected areas should be integrated with existing and emerging management measures as part of a coherent ecosystem-based approach to management of commercial and recreational fisheries and <u>should not be simply layered over existing regulations.</u> Careful consideration of the effects on allocation of resources among users, displacement of fishing activity, the requirements for surveys and stock assessment, and the costs of monitoring and enforcement should be made in considering protected area options and design."*

We believe that the fishermen's network proposal is the only package that acknowledges the strict conservation (ecosystem-based) component of existing fishery management and makes an effort to integrate existing protective laws and fishery management regulations into its conservation effort.

How We Meet Goals and Objectives

Following is a partial list of key goals and objectives met through the fishermen's MPA network proposal.

- Intrinsic Value – Numerous high value natural heritage sites have been set aside to express appreciation for their intrinsic value. Some examples of these are Greyhound Rock State Marine Reserve, the expansion and inclusion of Elkhorn Slough and Moro Cojo Estuary State Marine Reserves, the Monterey Submarine Canyon No-Bottom Contact State Marine Conservation Area, Cypress Pinnacle State Marine Reserve, Julia Pfeiffer-Burns State Marine Reserve, Point Piedras Blancas State Marine Reserve, and more.

- Protecting areas of high species diversity – Throughout our core system of marine reserves and associated marine conservation areas, strong protection for species diversity and abundance has been assured in representative and replicate habitats. The Monterey Bay Canyon No-Bottom-Contact SMCA, Julia Pfeiffer-Burns SMR, and the Vandenberg SMR complex are but a few examples of this.
- Habitat protections – All the goals and objectives mandating protection of representative and/or unique habitats have been met in our network proposal. These include estuaries, surfgrass beds, kelp forests, rocky intertidal, all depth ranges, including some of the deepest waters found off the California coast, upwelling areas, larval retention areas, and spawning habitats. Elkhorn & Moro Cojo Sloughs, Julia Pfeiffer-Burns SMR/SMCA, and an expanded Point Lobos SMR are some examples of this.
- Benefits to non-consumptive users – the Ed Ricketts SMP/SMCA, an expanded Point Lobos SMR, a new Pinnacles SMR, and the Pacific Grove Intertidal SMR are all close to population centers and are examples of MPAs that meet this objective.
- Benefits to Educational Institutions – Support for the continuance of the Hopkins SMR, a new Sand Hill Bluff Intertidal SMR, and the study opportunities afforded by the entire central coast network, will benefit the universities.
- Enhanced science study opportunities – as previously discussed, our proposal creates experimental opportunities through its use of replicates of all key habitats, through different MPA/MR sizes, and through adjacent combinations of MPAs with differing levels of protection.
- Monitoring – Package 1 MPAs are sited to take advantage of existing monitoring studies, proximity to science research institutions, and the ability of harvester stakeholders to participate.
- Rebuilding populations – our network of MPAs protects all 19 species identified in the state's Nearshore Fishery Management Plan. Further it offers significant additional protection and potential rebuilding opportunity to all the species identified as "overfished" by the PFMC (although according to fishery scientists, this may confound CPUE estimates and significantly increase uncertainty in stock assessment models).
- Maximizing socio-economic benefits – although this will be difficult to quantify, our proposal offers locations to non-consumptive stakeholders that should preserve or enhance their experience.
- Minimizing socio-economic costs – unlike the other two proposals, Package 1 has utilized stakeholder knowledge fully to select MPA sites of high natural heritage and ecosystems value, but which represented less socio-economic pain compared to other similar sites. Package 2 and 3 proponents discounted fishermen's input and selected sites, notably Ano Nuevo, Pt Sur, Pt. Piedras Blancas, Portuguese Ledge, and Monterey Peninsula sites, for example, when they could have selected other sites that did not exclude harvesting opportunities to such an extreme degree. Both Packages 2 & 3 entirely eliminate fishing for coastal pelagic species and squid in one of Monterey Bay's most important fishing areas, despite the fact that CPS and squid fisheries are historic, sustainable and contribute 95 percent of the total volume, and nearly that much in value, of seafood landed commercially in Monterey Bay harbor communities. Monterey's wetfish industry, the foundation of the Bay's harbor community, has existed for more than 150 years. The MPA networks proposed in Packages 2 and 3 will also lead most certainly to the negative environmental consequences of displaced effort, contradicting regional goals and

objectives. The proponents of Packages 2 and 3 had other choices; we wonder why they chose sites that would risk overfishing and cause excessive and unnecessary economic and social harm?

The Role of Socio-Economic Information

As is well known to the Blue Ribbon Task Force, our group has actively sought a comprehensive socio-economic analysis of the potential consequences of a system of additional MPAs in state waters. This would include both potential costs and benefits. We have lobbied that such an analysis should not only include the commercial fishermen's catch and recreational opportunities, but also the fish buyers, restaurants, markets, allied industries and the overall effects on the economies of local communities. Moreover, this analysis should encompass a wide range of years, not simply the past one or two.

The positive and negative effects of establishing an improved network of MPAs upon tourism should also be included in this analysis. The heart of this evaluation should be focused on change, i.e., how will removing fishing, processing, access to fresh local seafood and recreational opportunities affect social and economic life in the community? Likewise, if other new opportunities are created, document how that will affect, in a positive way, social and economic life in the communities. It should be noted that there are social as well as economic aspects to all this. It is not just the financial gain or loss, but the impacts on community integrity, resilience and viability, how people live, etc. A more complete baseline socioeconomic information study is essential for enabling communities to anticipate and plan for the benefits and costs that MPAs may bring, and for evaluating the effects of MPAs.

For a variety of reasons, this comprehensive socio-economic analysis has never happened despite our best efforts. Other RSG members, proponents of Packages 2 and 3, also have expressed publicly a desire for better and more timely socio-economic information in order to minimize the socio-economic damage when crafting their proposals. Because of this lack, it appears that the State will need to rely on the testimony of stakeholders themselves, who will know which MPA sites would cause excessive harm to them; this advice should be given great weight in this process.

However, we have heard some individuals question the validity of stakeholder advice and challenge the use of this information. Since we worked so hard to encourage a scientific study, it would be a point of considerable irony if the advice of primary stakeholders were not given due weight. This is not to say, however, that claims of loss or benefit should not be questioned – certainly BRTF members can ask that such claims be explained.

We also believe that comprehensive field research and analysis of the potential proposed benefits of a new system of MPAs should be undertaken. This, we understand, will be a complex and costly endeavor for several reasons. First, regarding the idea of overall ecosystem benefits, the degree to which those benefits would be realized will be the degree to which biodiversity actually improves over time. This in turn is relative to the existing condition of resources. By and large, existing resources in central California are in good condition.

Considering that it will take many years to realize measurable ecosystem benefits from MPAs, if at all, results of this program will not be known for a long time, perhaps decades. Social and economic impacts, however, will be detectable much sooner.

Likewise, for specific MPA sites, the same reference question is valid regarding the current state of resources. However, the fact is that entities such as the Monterey Bay National Marine Sanctuary, various Chambers of Commerce, whale watching and dive businesses, etc. are currently engaged in ongoing promotions touting the abundance and diversity of central coast resources. It will, therefore, be very difficult to quantify what new opportunities or economic value can emerge from this "improved" MPA network without solid socio-economic baseline data being collected. Nevertheless, such an analysis should be attempted for the benefit of decision-makers in this process.

The MLPA and Other State Laws and Policies

In mandating an "improved" system of MPAs, the MLPA specifically identifies a goal "to help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted," and it is significant to note that the law does not require that California's ocean harvest economies be harmed, or even reduced in scope. The findings of the Act also note that "fish and other sea life are a sustainable resource, and fishing is an important community asset."

Further, the doctrine of the public trust for State Tidelands was historically founded upon and has subsequently used these precious lands for three purposes: navigation, commerce, and fisheries. In part this doctrine laid the foundation for the California Coastal Act, which also gives priority to coastal dependent industries, and particularly, fishing. Section 30234 states that "facilities serving the commercial fishing and recreational boaters industries shall be protected and where feasible, upgraded."

Finally, we point out that Governor Schwarzenegger adopted as his fourth goal in the administration's ocean action strategy: "Support ocean dependent economic activities".

All of these laws and policy statements highlight the significance of the fact that Package 1, and only this package, successfully balances the ecosystem benefits called for in the MLPA with support for California's historic ocean-dependent harvest economies.

The Role of the Monterey Bay National Marine Sanctuary

We believe that the Monterey Bay National Marine Sanctuary, which extends within the study region from Pigeon Point to Cambria, already plays a significant role in achieving the goals and objectives of the MLPA. Its regulations against oil and gas development, mineral extraction, and other projects that could harm the ocean bottom, all provide ecosystem protections. Moreover, the Sanctuary's educational, water quality protection, and research programs all contribute to the findings and state goals of the Act.

The MBNMS research program in particular should be highlighted as an area that the State, fishermen, and the Sanctuary could partner in for effective collaborative research and monitoring. Both the Sanctuary, and its supporting Foundation, could be approached to financially support the MLPAI research program.

Headlands, Marine Mammals, and Sea Birds

The Master Plan Framework correctly points out that headlands are important for the habitats or processes associated with them. But jets and plumes, upwelling areas and larval retention areas may well not be located immediately opposite the points, but rather some distance away, in the lee area. Pt. Sur is a good example of this, where the ocean directly offshore of Pt. Sur is quite turbulent. While this may be a good fishing area, weather permitting, and a source of larvae, it is not a larval retention area. The larval retention area is located down coast toward Julia Pfeiffer-Burns State Beach. The Package 1 proposal takes into account these practical, local-knowledge-based insights, as fishermen know which areas associated with headlands will likely produce the most ecological benefits. Package 1, therefore, has protected the important habitats associated with the following headlands: Ano Nuevo/Greyhound Rock, Point Lobos, Julia Pfeiffer Burns complex (in the lee of Point Sur), Alder Creek (at Cape San Martin), Point Piedras Blancas, Diablo Canyon (at Point Buchon), and Vandenberg (at Point Arguello).

We have also heard the belief that where marine mammals and sea birds are present in colonies near headlands, the adjacent areas must be placed in a reserve to protect local forage species. There is not a strong factual basis for this concern. First, the forage range of virtually all marine birds and mammals that seasonally occupy headland areas is far greater than the size of even a moderately large MPA. In addition, the amount of fishing effort in any given area during that season is insignificant compared to the abundance of the available forage pool, which includes, in addition to squid and other coastal pelagic species, shortbelly rockfish, krill and a host of other unfished marine fauna. Moreover, as noted above, existing fishery management for virtually all forage species has adopted ecosystem-based harvest strategies, or in the case of krill, prohibited fishing entirely, to insure an adequate forage pool for other marine life. Natural oceanic cycles, rather than fishing, play a huge role determining the abundance and composition of this forage pool. Studies indicate that good fishing occurs during the same years as robust bird and marine mammal populations when environmental conditions are productive.

Another rationale that we have heard for placing marine reserves immediately adjacent to headlands is that fishing activity disturbs birds. This is also not a correct observation. If anything disturbs birds, it is boating activity (i.e. high speeds), not fishing, which is either stationery or very slow trolling. MPAs, therefore, are simply not the right tool to solve this problem. If the disturbance of seabirds is a problem, then perhaps a recommendation could be made to the local counties to enact speed zones.

Because of these factors, the fishermen's network proposal does place less emphasis on protecting capes and points than do the other packages; however the fishermen's network still captures many headlands and the important habitats and processes associated with headlands.

Conclusion

The State can, in fact, secure a "win-win" outcome in implementing the Marine Life Protection Act. The State can achieve a network that is supported by a broad coalition

of recreational and commercial fishermen, ocean-dependent industries and coastal communities – and is also worthy of support by the environmental community. We believe that our proposal, Package 1, offers the State an unprecedented opportunity to meet its ecological and socio-economic goals.

Thank you for your interest and consideration.

Sincerely,

Stephen B. Scheiblauer - representing the CA Assoc. of Harbor Masters & Port Captains
Rick Algert - Harbor Director, City of Morro Bay
Tom Capen - President, Port San Luis Commercial Fishermen's Association
David Crabbe - Vice President, California Wetfish Producers Association
Dave Edlund - Chair of Skin-diving, Central California Council of Diving Clubs
Howard Egan - Sanctuary Affairs Coordinator, Recreational Fishing Alliance
Eric Endersby - Diving representative, RFA Advisory Board
Ray Fields - President, The Abalone Farm
Neil Guglielmo - Board of Directors, California Wetfish Producers Association
Tom Hafer - President, South-Central Nearshore Trap Organization
Bob Hather - Board of Directors, Central Coast Fisheries Conservation Coalition
Tom Mattusch - Owner, Hulicat Sportfishing; Coastside Fishing Club
Darby Neil - Owner, Virg's Landing Sportfishing
Jeremiah O'Brien - President, Morro Bay Commercial Fisherman's Organization
Mike Ricketts - President, Monterey Fishermen's Marketing Association
Art Seavey - Partner, Monterey Abalone Company

MLPA – CENTRAL COAST REGIONAL STAKEHOLDERS

PACKAGE NUMBER ONE

Table of Contents

Version: 12-15-05

COMPLIANCE WITH SAT GUIDELINES

This Proposal intends to comply with the scientific guidelines in the Master Plan Framework

STRUCTURE OF EACH MPA

Each MPA within Package One is structured with the following information:

Rationale

Regulations

Area

Habitats

Species

Boundaries

Goals

MPA Complexes or Groups

Many of the individual MPAs described are actually portions of MPA complexes. Because of this, specific objectives for a single MPA may not be particularly relevant or obvious unless it is taken in the context of an MPA complex. For example, many of the MPAs comprise both an SMR and an SMCA that are connected in some fashion. In some cases the objectives, indicators, species, key measures, etc. will actually be different for two MPAs together than merely the sum of the two MPAs objectives etc.

Wherever this distinction is relevant, there will be an additional discussion identifying any special benefits are afforded by the complex that would not be apparent by merely considering the MPAs individually.

SOURCE OF SUPPORTING DOCUMENTS

Regional Stakeholders Goals and Objectives

The source document for the Central Coast Regional Stakeholders Objectives is:

Adopted Provisional Regional Goals and Objectives Package
as amended by the MLPA Blue Ribbon Task Force, November 5, 2005, five pages.

Species Likely to Benefit

The source document for the key species likely to benefit from marine protected areas is:

> Master Plan Science Advisory Team, Some Key Species Likely to Benefit fro Marine Protected Areas in the Central Coast Study Region, November 28, 2005, ten pages.

Socioeconomic Criteria for Goals 3 and 5

The source document for the socioeconomic criteria for goals 3 and 5 is:

> Suggestions Regarding the Development of Rationale for the Socioeconomic Criteria in Goals 3 and 5, November 22, 2005, two pages.

Rationale for Fisherman's MPA Network Proposal

The source document for the rationale in support of a MPA is:

> Rationale for Fisherman's MPA Network Proposal, November 4, 2005, 25 pages.

Año Nuevo State Marine Reserve

Rationale: This area is in the State Preserve and is a traditional area for research and wildlife viewing.

As this area is at the head of an upwelling source, it will serve as an ideal larval source for invertebrates.

Invertebrate take in this area is already closed during the months of December through April. In the spring and summer there is highly restricted access due to the pinniped haul out. Also the primary legal invertebrate available for take, mussels, are normally quarantined during these months. Addresses abalone management plan.

Rather than extend the existing boundary out to ¼ mile as is proposed in other packages, we chose to keep the existing boundary for the following reasons. First, the existing distance-from-shore boundary is self limiting and easily enforceable. Extending the boundary out to ¼ mile is unenforceable. Second, the rationale presented for moving the boundary out to ¼ mile (including ¼ mile outside the island) has been presented as solely a bird disturbance issue. This is not due to extraction, and therefore an SMR designation will not achieve the stated goals. The idea of speed limits or no-wake zones to address these issues may be a much better alternative.

Regulations: No commercial or recreational fishing permitted, including no take of invertebrates.

Area: Total area is approximately 0.6 sq miles, with an alongshore extent of 5.6 miles.

Habitats: Rocky and sandy inner tidal with all of the following shoreline types: Wave Cut Rocky Platforms, Exposed Rocky Cliffs, Mixed Sand and Gravel Beaches and Fine- to Medium-Grained Sand Beaches.

Species: Red & black abalone, limpets, red & purple sea urchin, brown rock crab, kelp rockfish, black & yellow rockfish, rubberlip surfperch, littleneck clams, mussels, rock scallops, sea stars, turban snails, worms, monkeyface prickleback and algal species. Also found: sea lions, sea otters, elephant seals, herring gulls. California grunion, night smelt , surf smelt, barred surfperch, Pismo clam, sand crab, ghost shrimp, mud shrimp, moon snail, worms

Boundaries: This area is bounded by mean high tide line and the following points within the Año Nuevo State Reserve: 37 deg 9.87 minutes lat, 122 deg 21.76 minutes long; and 37 deg 6.98 minutes lat, 122 deg 18.37 minutes long, and the reserve extends seaward to 100 feet beyond the low tide mark.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal habitats, including surfgrass beds.

G1O2: Protect areas with diverse habitat types in close proximity to each other such as nearshore rockfish and black and red abalone.

G1O3: Protect natural size and age structure and genetic diversity of populations in rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal habitats, including surfgrass beds.

G1O4: Protect natural trophic structure and food webs in rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal habitats, including surfgrass beds.

G2O2: Protect larval sources and enhance reproductive capacity of rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal species most likely to benefit from MPAs, such as black and red abalone, littleneck clams, and mussels, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as viewing of elephant seal populations.

G3O2: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA designations, habitats, here intertidal, or control areas.

G3O3: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal MPAs that link with classroom science curricula, and identify participants.

G3O4: Protect or enhance recreational viewing experience by ensuring natural size and age structure of marine populations in rocky and soft bottom intertidal areas, including surfgrass beds.

G5O1: Minimize negative socio-economic impacts and optimize positive socio-economic impacts for all users, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines.

G5O2: For all MPAs in the region, develop objectives, a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation, and ensure that each MPA objective is linked to one or more regional objectives.

Greyhound Rock State Marine Conservation Area

Rationale: The Greyhound Rock SMCA is part of the Greyhound Rock MPA complex. This complex fully protects groundfish. Although the regulations in the SMCA portion of the complex allow for recreational shore fishing, the areas that are accessible for this activity contain little or no reachable rockfish habitat. Surfperch is the primary shore fishery here. There is no salmon fishing inside 30 fathoms. This combined with the presence of the interior SMR clearly make this at minimum **a medium protection SMCA**. This is the only SMCA in the proposed network that warrants an exception to the protection level classification scheme.

The complex encompasses approximately ***23 percent*** of the non-canyon hard bottom north of the city of Seaside.

The Greyhound Rock area has comparable habitat to the adjacent Franklin Point to Año Nuevo region. The habitat inside 20 fathoms supports the entire sebastes complex that typically lives inside the 20-fathom depth range along with lingcod, greenling and cabezon. As this area is at the head of an upwelling source, it will serve as an ideal larval source by serving as a spawning habitat.

Negative socio-economic impacts are greatly mitigated by considering this MPA complex as opposed to a smaller sized adjacent complex to the north between Franklin Point and Año Nuevo.

This area is also sized appropriately to be the only MPA that exists inside 20 fathoms between Franklin Point and New Brighton beach.

Using this location prevents a large displacement of effort, and prevents depletion of areas that are not currently being over fished, such as the Pigeon Point area. Therefore, this not only protects the Greyhound Rock area but prevents a massive inevitable effort-shift to the Pigeon Point area and to the Davenport Landing-to-New Brighton beach area.

There is presently very little information available concerning the protection provided by reserves, highly protected SMCAs and moderately protected SMCAs. This information will be critical in the future evaluations of the effects of MPAs.

The proposed Greyhound Rock SMCA – SMR combination MPA is designed to provide side by side comparison of a reserve and a conservation area that allows fishing for non-resident pelagic fishes.

Regulations: SMCA prohibits the take of finfish and invertebrates EXCEPT for recreational and commercial fishing for salmon, coastal pelagic species (including squid) and Dungeness crab. Recreational shore fishing regulations would remain unchanged in the SMCA. Fishing regulations within Scott and Waddell creeks shall not be affected by this MPA.

Area: Total area is approximately 12.6 sq nm with an alongshore distance of 7 statute miles. Area within the SMR is 2.8 sq. nm with an alongshore distance of 3.8 statute miles.

Habitats: Rock reef and kelp, sand bottom. Nearshore includes pinnacles and other reef structures of high relief. It is near the origination point of the local upwelling center. SMR covers depth range from 0 to 25 fathoms. SMCA continues to protect benthic habitats out to approx 35 fathoms.

Species: Include but not limited to Nereocystis, Black Abalone, most of the 19 nearshore species (excluding scorpionfish, sheephead, treefish), lingcod, vermilion rockfish, surfperch, jacksmelt, squid, anchovy, and sardine.

Boundaries: Bounded by mean high tide line and Western boundary at 122º 19' W long. Southern boundary for SMCA is 37º 02' N. lat. Both western and southern boundaries terminate at State waters boundary.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats by protecting nearshore rockfish.

G1O2: Protect kelp beds and areas with shale and soft bottom habitat types, in depths of 0 to 180 ft (0-55 m), including surfgrass beds, in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of finfish populations in representative habitats.

G104: Protect natural trophic structure and food webs in the internal SMR by providing a buffer that helps prevent rockfish from being caught outside of the SMR.

G105: Protect ecosystem structure, function, integrity and ecological processes by facilitating recovery of rockfish populations both inside the SMCA and inside the SMR.

G2O1: Help protect and rebuild populations of the subset of NFMP species that exist.

G2O2: Protect larval sources and enhance reproductive capacity of species associated with shale and soft bottom, and which are most likely to benefit from MPAs by providing safe spawning habitat for migratory species such as California habitat and by retaining the rockfish species listed in the species list above.

G2O3: Protect species such as nearshore rockfishes and the habitats on which they depend, while allowing the harvest of salmon, coastal pelagic species (including squid), and Dungeness crab through the use of state marine conservation areas.

G301: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. This area includes public access at Scotts Creek and Waddell Creek for diving and Kayaking.

G3O2: To enhance the likelihood of scientifically valid studies, replicate MPAs in nearshore rocky and soft bottom habitat. Examples of this include Greyhound Rock SMR, Point Lobos, etc.

G3O4: Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of groundfish populations in this MPA complex.

G4O1: Include within MPAs the following habitat types: pinnacles. Mapped pinnacle exists at approx 37 deg 5.75 min, 122 deg 18.9 min.

G4O2: Protect representative rocky and soft bottom habitat types, including surfgrass beds, rocky reefs, pinnacles, across a depth range of 0 to 180 ft (0-55 m). Multiple instances of shallower nearshore rockfish habitat are replicated within both the SMCA and the SMR.

G5O1: For the region north of Moss Landing, this complex represents the best balance of protection versus limiting negative socioeconomic impacts. See discussion in rationale above.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

G5O3: This MPA complex exceeds the SAT guidelines in terms of size, regional habitat representation and replication. Spacing to the next nearshore MPA of comparable protection at Pt Lobos is approximately 36 miles. As this MPA complex is much larger (in terms of alongshore extent) than the minimum size guidelines, the spacing is easily within the minimum spacing guideline.

Greyhound Rock State Marine Reserve

Rationale: The Greyhound Rock SMR is part of the Greyhound Rock MPA complex. This complex fully protects groundfish.

The complex encompasses approximately ***23 percent*** of the non-canyon hard bottom north of the city of Seaside. The SMR itself contains approximately 1 out of 4 sq nm of the hard bottom in the complex.

The Greyhound Rock area has comparable habitat to the adjacent Franklin Point to Año Nuevo region. The habitat inside 20 fathoms supports the entire sebastes complex that typically lives

inside the 20-fathom depth range along with lingcod, greenling and cabezon. As this area is at the head of an upwelling source, it will serve as an ideal larval source by serving as a spawning habitat.

Negative socio-economic impacts are greatly mitigated by considering this MPA complex as opposed to a smaller sized adjacent complex to the north between Franklin Point and Año Nuevo. This area is also sized appropriately to be the only MPA that exists inside 20 fathoms between Franklin Point and New Brighton beach.

Using this location prevents a large displacement of effort, and prevents depletion of areas that are not currently being over fished, such as the Pigeon Point area. So this not only protects the Greyhound Rock area but prevents a massive inevitable effort-shift to the Pigeon Point area and to the Davenport Landing-to-New Brighton beach area.

Regulations: No take.

Area: Area within the SMR is 2.8 sq. nm with an alongshore distance of 3.8 statute miles.

Habitats: Rock reef and kelp, sand bottom. Nearshore includes rocky reef structures of high relief. It is near the origination point of the local upwelling center. SMR covers depth range from 0 to 25 fathoms.

Species: Include but not limited to Nereocystis, Black Abalone, most of the 19 nearshore species (excluding scorpionfish, sheephead, treefish), lingcod, vermilion rockfish, surfperch, jacksmelt, squid, anchovy, and sardine.

Boundaries: Bounded by mean high tide line and Western boundary at 122º 16.5' W long. Southern boundary is 37º 2.5' N. lat. near north end of Scotts Creek beach. .

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats by protecting both rockfish and coastal pelagics.

G1O2: Protect kelp beds and areas with shale and soft bottom habitat types, in depths of 0 to 180 ft (0-55 m), including surfgrass beds, in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of finfish populations in representative habitats.

G104: Protect natural trophic structure and food webs.

G105: Protect ecosystem structure, function, integrity and ecological processes by facilitating recovery of rockfish populations both inside the SMCA and inside the SMR.

G2O1: Help protect and rebuild populations of the subset of NFMP species that exist.

G2O2: Protect larval sources and enhance reproductive capacity of species associated with shale and soft bottom, and which are most likely to benefit from MPAs by providing safe spawning habitat for migratory species such as California habitat and by retaining the rockfish species listed in the species list above.

G301: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. This area includes public access at Scotts Creek and Waddell Creek for diving and Kayaking.

G3O2: To enhance the likelihood of scientifically valid studies, replicate MPAs in nearshore rocky and soft bottom habitat. Examples of this include Greyhound Rock SMCA, Point Lobos, etc.

G3O4: Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of groundfish populations in this MPA complex.

G4O2: Protect representative rocky and soft bottom habitat types, including surfgrass beds, rocky reefs, pinnacles, across a depth range of 0 to 180 ft (0-55 m). Multiple instances of shallower nearshore rockfish habitat are replicated within both the SMCA and the SMR.
G5O1: For the region north of Moss Landing, this complex represents the best balance of protection versus limiting negative socioeconomic impacts. See discussion in rationale above.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

G5O3: This MPA complex exceeds the SAT guidelines in terms of size, regional habitat representation and replication. Spacing to the next nearshore MPA of comparable protection at Pt Lobos is approximately 36 miles. As this MPA complex is much larger (in terms of alongshore extent) than the minimum size guidelines, the spacing is easily within the minimum spacing guideline.

Sand Hill Bluff Intertidal State Marine Reserve

Rationale: Provide an intertidal reserve near the Santa Cruz population center that can be studied by Long Marine Lab and is traditionally visited by tourists and schoolchildren on field trips (Natural Bridges State Park).

Regulations: No Take.

Area: Total area is approximately 0.48 sq miles, with an alongshore extent of 4.3 miles.

Habitats: Rocky and sandy inner tidal with all of the following shoreline types: Wave Cut Rocky Platforms, Exposed Rocky Cliffs, Mixed Sand and Gravel Beaches and Fine- to Medium-Grained Sand Beaches.

Species: Black abalone, brown rock crab, limpets, little neck clams, mussels, purple urchin, red rock crab, red urchin, sea stars, turban snails, worms, giant kelp and other intertidal algae.

Boundaries: Area encompassing intertidal area from Sand Hill Bluff (N 36º 58.526) in north to National Bridges State Park (N 36º 57.00) in south, out to -2' MLLW (zero tide). Southern boundary should be coincident with the west end of the beach at Natural Bridges State Park to allow for traditional surf fishing for perch etc.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom intertidal habitats, including surfgrass beds.

G1O3: Protect natural size and age structure and genetic diversity of populations in rocky and soft bottom intertidal habitats, including surfgrass beds.

G1O4: Protect natural trophic structure and food webs in rocky and soft bottom intertidal habitats, including surfgrass beds.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal communities from disturbances both natural and human induced.

G2O1: Help protect or rebuild populations of rare, threatened, endangered, depleted, or over fished species, including black abalone and (very) near shore rockfish, and the habitats and ecosystem functions upon which they rely.

G2O2: Protect larval sources and enhance reproductive capacity of rocky and soft bottom intertidal species most likely to benefit from MPAs, such as mussels, limpets, and sea stars, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as exploration of intertidal areas.

G3O2: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA intertidal habitats in other state marine reserves within the central coast region. (see Ano Nuevo State Marine Reserve).

G3O3: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal MPAs that link with classroom science curricula, and identify participants.

G3O4: Protect or enhance recreational viewing experience by ensuring natural size and age structure of marine populations in rocky and soft bottom intertidal areas, including surfgrass beds.

G4O2: Protect, and replicate to the extent possible, representatives of rocky and soft bottom intertidal habitats.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Elkhorn Slough State Marine Reserve

Rationale: Protect rare and vulnerable estuary habitat including mudflats and associated invertebrates as well as nursery grounds for fish species such as skates, rays, flatfish, and striped bass.

This is essentially all of the estuary habitat in this region. Estuaries are important as nursery habitat for many species, including species of commercial and recreational value, so this could be critical habitat to protect. It is also home to sea otters, among the most threatened of all species.

Our earlier proposal created a western boundary for ESSMR of ¼ mile east of the Hwy 1 bridge. We were concerned that subsistence harvesters in that area, who are not represented on the CCRSG in any way, not lose an important area with no say in the process. However, we also understand that the conservation community, and the current management of the reserve, feel that it is important to include this area. In making this proposal, we do feel that a further evaluation of use patterns should be conducted, perhaps through checking with Fish & Game Wardens.

Regulations: No Take.

Area: Area within the SMR is 1.36 sq. miles.

Habitats: Estuary

Species: Crabs, ghost shrimp, mud shrimp, clams, bay mussels, worms, rays, California halibut, English sole, leopard shark, various perch, starry flounder, striped bass.

Boundaries: All of Elkhorn slough east of Hwy 1 bridge.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds.

G1O3: Protect natural size and age structure and genetic diversity of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds.

G1O4: Protect natural trophic structure and food webs in coastal marsh, tidal flats, and estuarine habitats.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural coastal marsh, tidal flats, and estuarine communities from disturbances both natural and human induced.

G2O1: Help protect or rebuild populations of rare, threatened, endangered, depleted, or over-fished species, where identified, and the nursery grounds, habitats and ecosystem functions upon which they rely. (I question whether this objective applies to this MPA. What species did you have in mind?)

G2O2: Protect larval sources and enhance reproductive capacity of coastal marsh, tidal flats, and estuarine species most likely to benefit from MPAs, such as clams, worms, ghost shrimp, and mud shrimp, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as Moss Landing Marine Laboratories, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as kayaking.

G3O2: To enhance the likelihood of scientifically valid studies, replicate estuarine MPA designations, including Moro Cojo Slough and Morro Bay, to the extent possible.

G3O3: Develop collaborative scientific monitoring and research projects evaluating estuarine MPAs that link with classroom science curricula, and identify participants.

G3O4: Protect or enhance non-consumptive recreational experience by ensuring natural size and age structure of marine populations.

G4O1: Include within MPAs the following habitat types: estuaries.

G4O2: Protect, and replicate to the extent possible, representatives of estuarine habitats.

G5O1: Little or no negative socio-economic impacts and optimize positive socio-economic impacts for all users, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines. (This needs to be confirmed.)

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Moro Cojo Estuary State Marine Reserve

Rationale: Protect rare and vulnerable esturarine habitat including mudflats and associated invertebrates as well as nursery grounds for fish species such as skates, rays, flatfish, and striped bass.

Regulations: No Take.

Area: Area within the SMR is 0.8 sq. miles.

Habitats: Estuary

Species: Crabs, ghost shrimp, mud shrimp, clams, bay mussels, worms, rays, California halibut, English sole, leopard shark, various perch, starry flounder, striped bass.

Boundaries: All of El Moro Cojo slough east of Hwy 1 bridge.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds.

G1O3: Protect natural size and age structure and genetic diversity of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds.

G1O4: Protect natural trophic structure and food webs in coastal marsh, tidal flats, and estuarine habitats.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural coastal marsh, tidal flats, and estuarine communities from disturbances both natural and human induced.

G2O1: Help protect or rebuild populations of rare, threatened, endangered, depleted, or over-fished species, where identified, and the nursery grounds, habitats and ecosystem functions upon which they rely. (I question whether this objective applies to this MPA. What species did you have in mind?)

G2O2: Protect larval sources and enhance reproductive capacity of coastal marsh, tidal flats, and estuarine species most likely to benefit from MPAs, such as clams, worms, ghost shrimp, and mud shrimp, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as Moss Landing Marine Laboratories, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as kayaking.

G3O2: To enhance the likelihood of scientifically valid studies, replicate estuarine MPA designations, including Moro Cojo Slough and Morro Bay, to the extent possible.

G3O3: Develop collaborative scientific monitoring and research projects evaluating estuarine MPAs that link with classroom science curricula, and identify participants.

G3O4: Protect or enhance non-consumptive recreational experience by ensuring natural size and age structure of marine populations.

G4O1: Include within MPAs the following habitat types: estuaries.

G4O2: Protect, and replicate to the extent possible, representatives of estuarine habitats.

G5O1: Little or no negative socio-economic impacts and optimize positive socio-economic impacts for all users, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Monterey Canyon No-Trawl State Marine Conservation Area

Rationale: This MPA is a formalization of the state waters portion of the Pacific Fisheries Management Council's essential fish habitat (EFH) closed area proposed for the Monterey Bay area. The Council's Amendment 19 (Essential Fish Habitat Protection Measures) creates a system of closed areas designed to protect essential fish habitat that extends along the entire west coast of the United States. Amendment 19 was adopted by the Pacific Council in November 2005 and it has been submitted to the National Marine Fisheries Service (NMFS) for review. NMFS has 90 days to act on the Pacific Council's action.

The Pacific Council designated the Monterey Bay EFH area as a no trawl area. When/if enacted by the Federal Government the state waters portion of the Monterey Bay EFH closed area will undoubtedly be enacted by the State of California. Even if the EFH were to not be adopted, this MPA would still carry forward the proposed protection. Package 1 is the only Package that conforms to the boundaries of the Monterey Bay EFH closed area. We note that the MBNMS wants to protect the Davidson-Seamount, even though there is no bottom fishing there, for similar reasons.

This conservation area will help rebuild and protect deepwater groundfish populations. Our proposal integrates Federal regulations into our proposed MPA network, therefore contributing to meeting our adopted Goals and Objectives.

See Monterey No-Bottom Contact SMCA below.

Regulations: No trawling.

Area: 55 sq. miles

Habitats: Deep canyon. 50-700 fathom depth range is covered

Species: Rockfish species include: aurora, bank, black, blackgill, blue, boccacio, canary, chilipepper, cowcod, darkblotched, rosy, vermilion, widow, yellow eye, and yellowtail. Other species include lingcod, sablefish, sanddab, sole, squid, sardine, and anchovy.

Boundaries: Area bounded by following coordinates, beginning at westernmost point of SMCA and moving clockwise around its perimeter:
36º 47.75' N. lat, 122º 03. W. long
36º 49.60' N. lat. 122º 00.85' W. long
36º 51.53' N. lat 121º 58.25' W. long.
36º 50.78' N. lat. 121º 56.89' W. long
36º 47.39' N. lat 121º 58.16' W. long
36º 48.34' N. lat 121º 50.95' W. long.
36º 47.23' N. lat. 121º 52.25' W. long.
36º 44.76' N. lat 121º 56.04' W. long
36º 41.68' N. lat 121º 56.33' W. long
36º 41.68' N. lat. 122º 01.00' W. long. Back to starting point of:
36º 47.75' N. lat, 122º 03. W. long

Goals:

G1O2: Protect the varied types of habitats within submarine canyons, in depths of 300 to 1800 ft (90-550 m), in close proximity to each other.

G2O1: Help protect and rebuild populations of bocaccio, cowcod, canary, darkblotched, widow, and yelloweye rockfish and the habitats and ecosystem functions upon which they rely.

G2O3: Protect species such as slope rockfishes, thornyheads, Dover sole, and sablefish, and lingcod and the habitats on which they depend from the impacts of trawl fishing, while allowing the harvest of species using other gear types through the use of state marine conservation areas.

G3O1: Ensure some MPAs are close to research and education institutions, such as Monterey Bay Aquarium Research Institute and Moss Landing Marine Laboratories, and are accessible for educational and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA submarine canyon habitats through the implementation of a relatively large state marine conservation area.

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula and local research institution programs, and identify participants.

G4O1: Include within MPAs the following habitat type: heads of submarine canyons.

G4O2: Protect representative submarine canyon habitat types, across a depth range of 300 to 1800 ft (90-550 m).

G5O1: Minimize negative socio-economic impacts to non-trawl fisheries within the submarine canyon portion of Monterey Bay while providing significant protection to benthic submarine canyon habitats through the prohibition of trawling.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan the monitoring protocols, and a strategy for MPA evaluation.

Monterey Submarine Canyon No Bottom Contact State Marine Conservation Area

Rationale: This SMCA is within the EFH area described above (see Monterey Canyon No Trawl State Marine Conservation Area). It provides additional protection to the deepest portion of the Monterey Submarine Canyon and conforms to the highest protection level utilized in the Federal system of EFH closed areas.

In the two other proposals for this region, Soquel Canyon and Portuguese Ledge have been identified as SMCAs with similar regulations or potentially allowing take of spot prawns and/or dungeness crab. In contrast to these, our proposed area would be 1) more restrictive, 2) provide a superior diversity of depths to the two other SMCAs in combination , and 3) is easier to enforce as there is only one area, and it has less recreational traffic.

The depth range of this region and the conformity with the maximum proposed federal EFH regulations (no bottom contact) make this a true benthic reserve. We feel the size and protection levels of the two Monterey Submarine Canyon MPAs in this proposal provide more habitat and population protection than the combination of the Portuguese ledge and Soquel Canyon MPAs. In addition the boundaries of Package 1 are in conformity with the proposed federal EFH closed area.

Regulations: No bottom contact or extraction of benthic species. Fishing for only salmon, highly migratory species and coastal pelagic species (including squid) is allowed. Because this water is so deep, this is a high value SMCA, with conservation value very close to an SMR.

Area: This conservation area would represent roughly 11 square miles of area.

Habitats: Deep canyon. 50-700 fathom depth range is covered

Species: Rockfish species include: aurora, bank, black, blackgill, blue, boccacio, canary, chilipepper, cowcod, darkblotched, rosy, vermilion, widow, yellow eye, and yellowtail. Other species include lingcod, sablefish, sanddab, sole, squid, sardine, and anchovy.

Boundaries:

- Western boundary is state waters boundary
- Northern boundary is 36 degrees 47.5 minutes.
- Eastern boundary is 122 degrees.
- Southern boundary is 36 degrees 42 minutes.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in submarine canyon habitats.

G1O2: Protect the varied types of habitats within submarine canyons, in depths of 600 to 3900 ft (365-1180 m), in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in submarine canyon habitats.

G1O4: Creation of this benthic reserve will allow verification that benthic trophic structure and food webs are protected.

G105: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of submarine canyon communities from disturbances both natural and human induced.

G2O1: Help protect and rebuild populations of cowcod, darkblotched, canary, and yelloweye rockfish and the habitats and ecosystem functions upon which they rely.

G2O3: Protect species such as slope rockfishes, thornyheads, Dover sole, and sablefish, and the habitats on which they depend, while allowing the harvest of salmon, highly migratory species, and coastal pelagic species through the use of state marine conservation areas.

G3O1: Ensure some MPAs are close to research and education institutions, such as Monterey Bay Aquarium Research Institute and Moss Landing Marine Laboratories, and are accessible for educational and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA submarine canyon habitats through the implementation of a relatively large state marine conservation area.

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula and local research institution programs, and identify participants.

G4O1: Include within MPAs the following habitat types: heads of submarine canyons including finger canyon heads.

G4O2: Protect representative submarine canyon habitat types, across a depth range of 600 to 3900 ft (365-1180 m).

G5O1: Minimize negative socio-economic impacts to salmon, coastal pelagic species, and highly migratory species fisheries within the submarine canyon portion of Monterey Bay while providing significant protection to benthic submarine canyon habitats.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Ed Ricketts State Marine Park

Rationale: While this is a very popular recreational beach dive site, it is also an historic and valued location for low-income shore fishing (from the Monterey Breakwater) and small skiff fishing (from the neighboring harbor). In areas near major harbors, we favor a “sharing” philosophy as access and safety are some of the important reasons for letting many user groups share the water.

We have changed our proposed designation for this area to a State Marine “Park”, to try and accommodate some of the desires of the non-consumptive dive community. We are under the impression that “Park” is a more valued name than “Conservation Area.”

We also propose to request of the City of Monterey to add signage to both the beach and breakwater areas, that would warn of the danger of accidental hooking. The City is agreeable to this.

A discussion of the rationale for why our group is proposing for the Cannery Row area to be a State Marine Conservation Area/State Marine Park would not be complete without discussing why we feel this area should NOT be a State Marine Reserve. There are many reasons for this:

1. Being in a urbanized area and being located immediately nest to an active harbor with many historic users of the area, it was felt by our group that this area should be shared, but with some moderate conservation measures in place that would provide some benefits to non-consumptive divers and the environment, while not altogether excluding other users. To offer an analogy, if there existed an urban park, used by children, the elderly, joggers, pet owners, nature photographers, etc., would it be fair to exclude all the other users except the photographers?
2. We believe that Marine Reserve status for this area will be a violation of Goal 3 of the MLPA which states: "To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbances, and to manage these uses in a manner consistent with protecting biodiversity." There is simply too much use of this area to meet this goal.
3. The Breakwater section has been used for shore fishing continuously since 1945. Keeping it open to shore fishing has been a priority for the City of Monterey since that time.
4. The Breakwater is also a resource for the State, in as much as it is a no-license-required area for free fishing, and is also ADA accessible. Preliminary discussions with the Department of Fish and Game have indicated reluctance on their part to eliminate this as a resource for the State.
5. Being located next to the harbor and in the most sheltered waters available, this area is not heavily fished, but it is fished by some of the smallest skiff fishermen that we have around. Kids in row boats from the harbor as well as small aluminum craft, lake boats, etc., will make use of these waters rather than rounding Lover's Point and experiencing markedly different sea conditions. There is, therefore, a significant safety factor in our minds should this area be put off limits to fishing, as it will drive these small skiffs farther off shore into more severe seas.
6. We believe that both the presence of the intake piping for the Monterey Bay Aquarium which entraps larvae and fish, as well as the use of the kelp beds in this area for commercial kelp harvesting, preclude Marine Reserve status, as both involve taking. Areas used for kelp harvesting are specifically called out in the MLPA for special consideration.
7. The small size of this area greatly undermines any real conservation value. SAT minimum recommended sizes for Marine Reserves are three square nautical miles. This area is approximately .2 square nautical miles. If the area is further bifurcated as some have proposed to be the area between the Chart House and San Carlos Beach (not including the Breakwater) then this area becomes tiny by any standard. It is unlikely that a significant increase in fish size, abundant, or biodiversity would be seen in such a small area.
8. The presence of so many divers in a small area is contrary to the requirements of a Marine Reserve, which are to be areas "subject to minimal human disturbance". By the statements of the non-consumptive divers themselves, this small area experiences 500 to 1000 divers per day, the equivalent to more than 65,000 divers per year. Many of these dives are by inexperienced novice divers. We believe that this much human interaction with the marine life inevitably will have a consequence on that marine life, with fish either leaving the area or being more prone to hiding behavior. This again is contrary to the requirements for being a State Marine Reserve. To illustrate this point, one only needs to imagine the reaction of the scientists who have studied Hopkins for years. How would they react to an additional 500-1000 non-consumptive (and often novice) divers a day searching their MPA for sea life?

9. Non-consumptive divers have anecdotally asserted a reduction in the number of fish, and particularly large fish, and other sea life that they see compared to 10-15 years ago, with the inference that fishing has caused this depletion. However, this conflicts with other anecdotal testimony that fishermen continue to catch large fish in this area. Further, it is known that no commercial fishing has occurred there for many years, although in the mid 1990's it was fished for the live fish market. Generally, both commercial and recreational fishing activities have declined since the 1980's, especially commercial. While we do not dispute the anecdotal evidence of the non-consumptive dive community (and we hope they do not dispute ours), we believe that the likely cause of their failure to see as many fish is largely due to this area being "loved to death" by the divers themselves. As discussed above, it is likely that the fish have learned to hide from the divers. If this area becomes an SMP, a study of fish reactions to intense diver presence would be an excellent monitoring study.
10. Arguments put forward that State Marine Reserve Status will increase visitation to the area, and have a positive economic benefit, are not likely to be true. The overriding factor that will limit accessibility in this area is parking, and parking is already completely saturated on most weekends. Further, it has already been rated and promoted as "the #1 best cold water beach dive site in the world" by Skin Diver magazine. Between that rating, and the promotion of the area as a National Marine Sanctuary by local businesses, there is very little, if any, use or business growth available. If there were an intensification of use in this area, this would be a concern for the City in reference to its local Coastal Plan and Coastal Permit.
11. The City of Monterey, which was granted the Tidelands offshore in this area in 1868 to a depth of minus 60 feet, does not support a Marine Reserve in this area. The City's Parks and Recreation Commission and the City Council had fifteen months of large-scale hearings on this matter in 1998. The Council concluded that they wanted fishing from the shore, the Breakwater, and from skiffs to be able to continue, as well as the limited kelp harvesting which is currently in place. The Council also felt that the heart of this matter was that the area should be shared, and no one group should exclude other groups from enjoying the area. We believe that as much deference as possible should be given to local entities whose jurisdictions will be affected by MPA status, particularly when the entity's desire is <u>inclusive</u> of public use rather than <u>exclusive</u>. The State would be correct in being cautious when municipalities wish to exclude members of the public, considering that the offshore resources belong to ALL of the people of the State.
12. Finally, we believe that the California Coastal Commission would be reluctant to exclude historic users for other than strong conservation reasons, as the California Coastal Act is in large part about protecting access and use opportunities to our coast.

Although modest, our proposal does offer some conservation benefits in the Ed Ricketts/Cannery Row area by banning commercial fishing, which has occurred historically in this area, banning spearfishing in the park area, and by banning institutional and commercial collecting, which addressed a long-standing complaint from the non-consumptive dive community. Kelp harvesting is already prohibited from this area by prior agreement with the State.

Lastly, we point out that our proposal calls for expanded conservation and non-consumptive diving opportunities at Point Lobos and the Pinnacles.

Regulations: SMP prohibits all spearfishing and kelp harvesting, but allows for recreational skiff and shore angling, and scientific monitoring. We have negotiated with the City of Monterey to support limiting fishing from the breakwater to the area east of the gate, thereby reducing conflicts

between fishermen and novice divers in the area closest to the beach. This would require Fish&Game Commission approval.

Area: 0.18 sq. nm total.

Habitats: Intertidal (sandy and rocky), seagrass (eelgrass and surfgrass), soft bottom (0-30m) and rocky hard bottom (0-30m). Deepest habitat is approximately 60 feet.

Species:

Boundaries: Begins at the shore boundary of the ER SMCA and continues east to the tip of the breakwater at N36.36.5, W121.53.3. The seaward boundary continues in the same straight line bearing from the seaward boundary at the Chart House, to the tip of the breakwater, at 148º.

Goals:

G1O3: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats especially invertebrates.

G2O3: Protect nearshore rocky and soft bottom invertebrate species and the habitats on which they depend while allowing the harvest of finfish species through the use of state marine conservation areas. Provide some protection to finfish species through the prohibition of commercial fishing for them.

G3O1: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving in the area from the Monterey harbor breakwater to Hopkins State Marine Reserve, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in nearshore and kelp bed habitats (including areas open to fishing) to the extent possible (see Pacific Grove State Marine Conservation Area).

G4O2: Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal rocky and soft bottom habitats, including kelp and surfgrass beds.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Ed Ricketts State Marine Conservation Area

Rationale: While this is a very popular recreational beach dive site, it is also an historic and valued location for 1) low-income shore fishing, 2) small skiff fishing, 3) commercial harvesting of kelp for abalone farming. In areas near major harbors, we favor a “sharing” philosophy as access and safety are some of the important reasons for letting many user groups share the water.

This proposal attempts to balance the preservation and protection of the area with recreation and productive activities. The CCRSG spent a great deal of time and energy discussing many MPA

proposals for the Monterey Peninsula. Significantly, those discussions almost never touched on unique habitats or species within the area. Rather, they focused on the values of the areas to the various user groups such as recreational fishing, diving, and kelp harvesting. The reasons for permitting recreational fishing and kelp harvesting in this area are:

1. For area residents and the area's many visitors, the principal point of access to the marine environment is through the city of Monterey's harbor, along with the surrounding beaches and rocky shoreline. Access is among the most important factors contributing to the confluence of uses around the Monterey Peninsula.
2. Skiff fishers need protected areas where elderly and very young fishers and those in small skiffs can safely fish. This is the most protected area outside of the proposed Ed Ricketts SMP.
3. Likewise, the protected nature of the area means that kelp may persist there throughout the winter. Kelp harvesters need a year-round supply of kelp for feeding farmed abalone and for the herring-roe-on-kelp fishery. Kelp for abalone farming has been sustainably harvested from this area for decades, beginning with Monterey Abalone Farms in the 1970's and continuing through the present time.
4. Kelp harvesters would like to propose establishing kelp harvesting guidelines that would be incorporated into regulations for SMCA's created within kelp bed 220 (which stretches from Wharf No. 2 to Cypress Pt.). We hope that the guidelines will alleviate concerns about potential over-harvesting in that area. The guidelines would include
    A. Hand harvest only, no mechanical harvesting of kelp.
    B. Harvesters must file a harvesting plan with DFG and the Monterey Kelp Cooperative (MKC) prior to harvesting. Harvesters could either file an annual plan (which would be practical for local companies that harvest year-round), or they could file a plan at least 24 hours prior to harvesting (which would be practical for those that harvest infrequently, such as herring-roe-on-kelp people, who might only harvest a couple of times per year, and don't know when they'll need it until a few days before). Harvesting plans would state the name, contact information, and business affiliation of the harvester, vessel type and size, amount to be harvested, date or frequency of harvest, and contact information. We envision DFG sending notice of this requirement to all licensed kelp harvesters with their license renewal information. We would also propose that notice be posted at City of Monterey boat launch ramps. We feel that the guidelines will help to ensure the continued sustainability of kelp harvesting in bed 220 by eliminating mechanical harvesting and by providing basic data about who, when, and how much harvesting is occurring. Should it appear that over-harvesting is occurring, DFG would be more able to react in an effective way by comparing the health of kelp beds in the two no-harvest areas in bed 220 with the areas that are harvested. This method of regulating harvesting would be more effective than attempting to set fixed numerical limits on harvesting, which, due to the variable nature of kelp resources, are not practical. Information in the harvest plans would reveal how much kelp is being harvested and by whom. Furthermore, the MKC will have contact information with all harvesters active in the area, which will enable communication among them. Such communication has been important in the past and allows local harvesters to inform others of the issues and concerns existing in the area.

5. By formalizing the no harvest area in an SMP, by proposing harvest guidelines and a voluntary seasonal closure along the remaining part of Cannery Row, harvesters are doing everything they can to accommodate the desires of the non-consumptive dive community

without jeopardizing their ability to access enough kelp to remain commercially viable, especially during winter months.

A discussion of the rationale for why our group is proposing for the Cannery Row area to be a State Marine Conservation Area/State Marine Park would not be complete without discussing why we feel it should NOT be a State Marine Reserve. Please refer to the explanation for this in the "Ed Ricketts State Marine Park" rationale statements.

Although modest, our proposal does offer some conservation benefits in the Ed Ricketts/Cannery Row area by banning commercial fishing, which has occurred historically in this area, banning spearfishing in the park area, and by banning institutional and commercial collecting, which addressed a long-standing complaint from the non-consumptive dive community.

Lastly, we point out that our proposal calls for expanded conservation and non-consumptive diving opportunities at Point Lobos and the Pinnacles.

Area: 0.18 sq. nm total.

Habitats: Intertidal (sandy and rocky), seagrass (eelgrass and surfgrass), soft bottom (0-30m) and rocky hard bottom (0-30m). Deepest habitat is approximately 60 feet.

Species: Black, blue, copper, olive rockfish; black & red abalone; lingcod; cabezon, wolf eel; kelp greenling; calico bass; CA halibut, sheephead; opaleye, rubberlip perch, pile perch, white sea bass

Boundaries: The western boundary shall adjoin with the eastern boundary of Hopkins SMR. The NE seaward boundary of the SMCA shall begin at the NE corner of Hopkins SMR (N36 37.220 W121 53.850) and proceed in a straight line bearing 148 degrees true to a location (N36 36.879 W121 53.593) approximately in front of the Chart House Restaurant and back again shoreward to the restaurant itself (N36 36.795 W121 53.872).

Goals:

G1O3: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats especially invertebrates.

G2O3: Protect nearshore rocky and soft bottom invertebrate species and the habitats on which they depend while allowing the harvest of finfish species through the use of state marine conservation areas. Provide some protection to finfish species through the prohibition of commercial fishing for them.

G3O1: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving in the area from the Monterey harbor breakwater to Hopkins State Marine Reserve, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in nearshore and kelp bed habitats (including areas open to fishing) to the extent possible (see Pacific Grove State Marine Conservation Area).

G4O2: Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal rocky and soft bottom habitats, including kelp and surfgrass beds.

Hopkins State Marine Reserve

Rationale: existing SMR

Regulations: No take allowed

Area: Approx. 0.16 sq. mi.; depth range 0 to 60 ft.; Approx. shoreline length 0.79 mi.

Habitats: Intertidal (rocky), Intertidal (sandy or gravel beaches), seagrass (surfgrass), soft bottom (0-30m), Kelp forest – persistent, Rocky reef, hard bottom (o-30m)

Species: Black & red abalone; black, black-and-yellow, blue, copper, gopher, kelp, olive, vermilion rockfish; lingcod, cabezon; sea otters

Boundaries: Area is bounded by the mean high tide line, the 10-fathom depth contour, and the following points: 36° 37.25' N. lat, 121° 54.50 W. long; 36° 37.63' N. lat. 121°

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m).

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m), in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m).

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m).

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal and shallow subtidal communities from disturbances both natural and human induced.

G2O1: Help protect and rebuild populations of bocaccio and canary rockfish through protection of their juvenile stages and the habitats and ecosystem functions upon which they rely.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as olive, blue, and kelp rockfishes, and California halibut, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving and kayaking within Hopkins State Marine Reserve, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and kelp bed habitats to the extent possible (see Pt. Lobos State Marine Reserve)

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with university science curricula at Hopkins Marine Station, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Pacific Grove Intertidal State Marine Reserve

Rationale: Allows public access to tidepools while protecting them. Also allows for continuing science monitoring and education programs, but with no collecting except what might be required to monitor the site for the purposes of the MLPA. We believe this MPA would receive strong support from local citizens. It has an enforceable seaward boundary, as if you can walk on it, you're in it. Recreational spearfishermen, crossing the PGISMR with take, should be accommodated.

Regulations: No Take Allowed. Would allow walk-in spearfishermen to cross the tidewater to return to shore with any fish caught outside the intertidal waters.

Area: 0.02 sq. nm. Approximate alongshore span = 3.45 mi. .

Habitats: Intertidal (rocky) and Intertidal (sandy). Terrific tidepools.

Species:

Boundaries: Area bounded by mean high tide line, -2' MLLW (zero tide) and the following points: SW shoreline at 36º 37.09' N. lat. 121º 56.49' W. long; (longshore 36º 37.34' N. lat 121º 57.34' W. long; 36º 37.63' N. lat. 121º 54.34' W. long); and SE shoreline at 36º 37.25' N. lat. 121º 54.50' W. long.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom intertidal habitats, including surfgrass beds.

G1O3: Protect natural size and age structure and genetic diversity of populations in rocky and soft bottom intertidal habitats, including surfgrass beds.

G1O4: Protect natural trophic structure and food webs in rocky and soft bottom intertidal habitats, including surfgrass beds.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal communities from disturbances both natural and human induced.

G2O2: Protect larval sources and enhance reproductive capacity of rocky and soft bottom intertidal species most likely to benefit from MPAs, such as mussels, limpets, and sea stars, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as exploration of intertidal areas.

G3O2: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA intertidal habitats through the establishment of this and other reserves which include intertidal habitat within the central coast region (see Hopkins and Pt. Lobos State Marine Reserves).

G3O3: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal MPAs that link with classroom science curricula, and identify participants.

G3O4: Protect or enhance recreational viewing experience by ensuring natural size and age structure of marine populations in rocky and soft bottom intertidal areas, including surfgrass beds.

G4O2: Protect, and replicate to the extent possible, representatives of rocky and soft bottom intertidal habitats.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Pacific Grove-Monterey State Marine Conservation Area

Rationale: The current MPA only goes out to 60 feet which leaves a substantial portion of the rocky bottom of Point Pinos open to commercial harvesting. By expanding the area of this MPA, additional protection is given to marine life including rockfish, halibut, and bethnic invertebrates.

Unlike other proposals that reduce the overall area where recreational fishing can take place in the nearshore waters off Pacific Grove by 50% or more, this proposal recognizes the importance of recreational fishing to continue in this area. Recreational fishermen (walk-in divers, kayak divers, kayak hook-and-line, and small boat hook-and-line) have very limited areas along the whole Central California coast where they can conveniently (close to where they live) access productive fishing areas in a safe manner. This is one of them. Other proposals have made the Point Pinos area off-limits to recreational fishing, which would displace the efforts of recreational fishermen on a narrower ban of the northern Pacific Grove shoreline. We think that is counterproductive.

In addition, this MPA provides a site close to Monterey for kelp harvest and convenient scientific collecting.

Regarding kelp harvesting, please be aware of the following:

1. Kelp harvesters need a year-round supply of kelp for feeding farmed abalone and for the herring-roe-on-kelp fishery. Kelp for abalone farming has been sustainably harvested from this area for decades, beginning with Monterey Abalone Farms in the 1970's and continuing through the present time. This area contains several kelp beds that have been shown to persist throughout the stormy fall and winter seasons, and are therefore important resources for harvesters. It is very important for harvesters to maintain access to as many areas of

persistent kelp as possible so that harvesting activities do not become overly concentrated. In the late spring, summer, and early fall, harvesters concentrate on the beds between Hopkins Marine Reserve and Pt. Pinos, including the outer portions of Lovers Cove, in order to avoid the beds closer to the harbor which are heavily used by divers, kayakers, boaters and others.

2. Kelp harvesters would like to propose establishing kelp harvesting guidelines that would be incorporated into regulations for SMCA's created within kelp bed 220 (which stretches from Wharf No. 2 to Cypress Pt.). We hope that the guidelines will alleviate concerns about potential over-harvesting in that area. The guidelines would include:
    A. Hand harvest only, no mechanical harvesting of kelp.
    B. Harvesters must file a harvesting plan with DFG and the Monterey Kelp Cooperative (MKC) prior to harvesting. Harvesters could either file an annual plan (which would be practical for local companies that harvest year-round), or they could file a plan at least 24 hours prior to harvesting (which would be practical for those that harvest infrequently, such as herring-roe-on-kelp people, who might only harvest a couple of times per year, and don't know when they'll need it until a few days before). Harvesting plans would state the name, contact information, and business affiliation of the harvester, vessel type and size, amount to be harvested, date or frequency of harvest, and contact information. We envision DFG sending notice of this requirement to all licensed kelp harvesters with their license renewal information. We would also propose that notice be posted at City of Monterey boat launch ramps. We feel that the guidelines will help to ensure the continued sustainability of kelp harvesting in bed 220 by eliminating mechanical harvesting and by providing basic data about who, when, and how much harvesting is occurring. Should it appear that over-harvesting is occurring, DFG would be more able to react in an effective way by comparing the health of kelp beds in the two no-harvest areas in bed 220 with the areas that are harvested. This method of regulating harvesting would be more effective than attempting to set fixed numerical limits on harvesting, which, due to the variable nature of kelp resources, are not practical. Information in the harvest plans would reveal how much kelp is being harvested and by whom. Furthermore, the MKC will have contact information with all harvesters active in the area, which will enable communication among them. Such communication has been important in the past and allows local harvesters to inform others of the issues and concerns existing in the area.
    Please see the section on the Ed Ricketts SMCA for more information on kelp harvesting.

The existing Hopkins Reserve nearby has historical baseline data (Ventresca-Hopkins-MLML) which can be used for scientific comparisons. This larger SMCA will provide a larger buffer for nearby Hopkins Reserve. The proposed expansion of this MPA does have a small negative impact on commercial fishing; however, this is balanced in our proposed network by recommending that some other key areas remain open.

Regulations: SMCA prohibits commercial take of finfish and benthic invertebrates EXCEPT Dungeness crab, salmon, coastal pelagic species (including squid), herring and kelp. Recreational fishing is allowed for finfish, Dungeness crab, and squid. Recreational take of other crustaceans and mollusks are prohibited.

Area: We are proposing expanding this SMCA from 1.5 sq. miles to 2.7 sq. nm. Proposed expansion extends depth range from current limit of 60 feet to approx. 200 feet. Approx. shoreline length of SMCA is 4.47 miles. Approximate alongshore span = 3.45 mi.

Habitats: Mostly granite reef, smaller portions of sand to 65 meters in depth. Other significant habitats include giant kelp forests, seagrass and pinnacles.

Species: Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches.

Boundaries: Eastern boundary is a line from the NW corner of Hopkins Reserve (36º 37.63' N. lat. by 121º 54.34'W. long.) to 36º 39' 0" N. lat. The northern boundary is 36º 39' 0" N. lat. from 121º 54.34' W. long. to 121º 57' 0" W. long. The western border is 121º 57' 0" W. long. to 36º 37' N. lat. then eastward to 36º 37'. lat. and eastward to the mean high tide line at Moss Beach. Pacific Grove Intertidal Reserve adjoins this SMCA from Hopkins SMR boundary to 36º 37.09' N. lat. extending from -2' MLLW and mean high tide line.

Goals:

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds, in depths of 0 to 240 ft (0-70 m), in close proximity to each other.

G1O3: (I question whether this is appropriate for this MPA because some fishing is allowed)

G2O1: Help protect and rebuild populations of bocaccio, widow, canary, and yelloweye rockfish through protection of their juvenile and/or adult stages due to the presence of a portion of the Rockfish Conservation Area within this MPA.

G2O2: Protect larval sources and enhance reproductive capacity of crustacean (except Dungeness crab) and mollusk (except squid) species most likely to benefit from MPAs which are associated with shallow granitic and soft bottom habitats, including kelp beds, such as rock crabs and turban snails, through retention of large, mature individuals.

G2O3: Protect species such as nearshore rockfishes and California halibut, and the habitats on which they depend, while allowing the harvest of salmon, coastal pelagic species (including squid), and Dungeness crab through the use of state marine conservation areas. Provide some protection to finfish species other than salmon and coastal pelagic species through the prohibition of commercial fishing for them.

G301: Ensure some MPAs are close to population centers such as the Monterey Peninsula and to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as scuba diving and kayaking.

G3O2: To enhance the likelihood of scientifically valid studies, replicate State Marine Conservation Area designations where recreational fishing is allowed, to the extent possible (see Carmel Bay State Marine Conservation Area).

G3O3: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal and shallow subtidal MPAs that link with classroom science curricula, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants.

G4O1: Include within MPAs the following habitat type: pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of shallow subtidal granitic and soft bottom marine habitats within the depth range of 0 to 240 ft (0-70 m).

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Cypress Pinnacles State Marine Reserve

Rationale: This SMR retained the boundaries of the original SMCA primarily because it provides a small SMR, between the size of the present Hopkins and Point Lobos reserves, for research purposes. One of the present unknowns concerns the question of how large does an MPA need to be to provide near pristine age structures, diversity and population densities? Any MPA network in the Central California area needs to have a wide range of MPAs to allow assessment of the effects of size.

Currently, this proposed MPA site is shared by both recreational fishermen and sightseeing scuba divers. Because this is a very popular site for sightseeing divers, we feel it is appropriate to make it a SMR. This will be an enhanced opportunity for non-consumptive divers: a place they can call their own, without displacing too many historic users. Recreational fishermen could shift their fishing to areas closer to 17-Mile Drive or to nearby Carmel Bay SMCA. This would not be substantial MPA on its own, but it would give some buffer to nearby Point Lobos Reserve and Point Lobos SMCA. We think it will also provide scientific study opportunities to contrast rockfish densities here with the three other current or proposed nearby SMCA/SMR's (Carmel Bay SMCA, Point Lobos SMR and Point Lobos SMCA). In addition it will provide research assessment of a protected offshore site that is entirely surrounded by area open to fishing. No other site, in any of the Packages, offers the research potential described for this small SMR.

Other MPA proposals have recommended having a more substantial Pinnacles SMR that would include making the waters inshore of the Pinnacles a reserve and even one proposal includes the major portion of Stillwater Cove in a Pinnacles Reserve. Since Stillwater Cove represents the most popular recreational spearfishing location on the Central California coast and DFG studies (Ventresca studies) suggest the fishery is strong, we feel that continuing to allow recreational fishing in all of Stillwater Cove and off the nearshore portion of 17-mile drive is reasonable. This is also consistent with our group's philosophy that areas near major harbors should be "shared" by all user groups.

Regulations: No Take Allowed

Area: 0.37 sq. nm.

Habitats: Dramatic rocky granite pinnacles and surrounding rocky reefs. Three major pinnacles with many smaller pinnacles. An extensive giant kelp forest on top of rocky pinnacles. Pinnacles in this area have a base as deep as 300 feet and reach within 20 feet of the surface.

Species: blue, black, olive, vermillion, kelp, black & yellow, gopher, & china rockfish, sheephead, cabezon, pile perch, rubberlip perch

Boundaries: An area bounded by straight lines connecting the following points in the order listed: 36º 33.65' N. lat 121º 58.40' W. long; 36º 33.65' N. lat. 121º 57.60' W. long; 36º 33.10' N. lat 121º 57.60' W. long; 36º 33.10' N. lat 121º 58.40' W. long and 36º 33.65' N. lat 121º 58.40' W. long.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including pinnacles, in depths of 0 to 200 ft (0-60 m).

G1O2: Protect areas with granitic and soft bottom habitat types, including pinnacles, in depths of 0 to 200 ft (0-60 m), in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including pinnacles, in depths of 0 to 200 ft (0-60 m).

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including pinnacles, in depths of 0 to 200 ft (0-60 m).

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including pinnacles, from disturbances both natural and human induced.

G2O1: Help protect and rebuild populations of bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible (see Pt. Lobos State Marine Reserve)

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range.

G4O1: Include within MPAs the following habitat type: pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of shallow subtidal granitic, including pinnacles, and soft bottom marine habitats within the depth range of 0 to 200 ft (0-60 m).

G5O1: Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a well-known and popular dive area.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Carmel Bay State Marine Conservation Area

Rationale: Carmel Bay SMCA is one of the most important recreational (mainly off kayaks) fin-fishing locations on the Central California coast due to important "access" points (at Stillwater Cove and Carmel River State Beach), healthy fish populations, and sheer beauty. This MPA should largely be kept intact. For recreational spearfishermen and women, this represents one of their most popular fishing locations on the whole Central California coast. Recreational fishing, mainly recreational breath-hold spearfishing divers, have an almost 50-year tradition of working here with DFG biologists (Ventresca, Reilly and others) on scientific research of nearshore fish species. Because Carmel Bay SMCA does not allow commercial finfish take, it provides some protection for adjacent Point Lobos SMR.

We propose that the southern portion of the existing Carmel Bay SMCA be added to Point Lobos SMR. That would include all of Mono Lobo Wall and both North and South Monastery Beach. While this proposed modification negatively impacts recreational fishermen, mainly spearfishermen, to some degree, by reducing access points and fishing areas, it would benefit non-consumptive users who would utilize the expanded Point Lobos SMR. It would also shift some of the upper portions of the Carmel submarine canyon into the Point Lobos SMR.

Other Carmel Bay SMCA users include recreational non-consumptive divers (mainly 50-80 foot depth scuba divers) and sightseeing tour kayakers. These groups are not significantly impacted by the recreational fishing activity in this MPA.

Some MPA proposals would significantly reduce the Carmel Bay SMCA at Carmel Point and further south and also at Stillwater Cove and convert these areas to Reserves. Because those proposals would have a great negative impact on recreational fishing we believe a largely intact Carmel Bay SMCA is sensible. While our group is proposing a larger Point Lobos Reserve and SMCA and a new Pinnacles Reserve, having some area for recreational fishing is consistent with our philosophy of sharing areas near major harbors/population centers with all user groups.

This MPA would also allow both kelp harvesting and squid take which are both low impact and sustainable.

Regulations: SMCA prohibits take of all marine life EXCEPT for recreational finfish and commercial squid and kelp harvest.

Area: 2.9 sq. nm.

Habitats: Granite reef along rocky and sandy shores. There are substantial surfgrass and giant kelp forests. Lots of rocky pinnacles and rocky bottom in 20-100 feet becoming more sandy beyond 100 feet. The head of the Carmel submarine canyon is currently in the existing Carmel Bay SMCA. We propose to cede waters to Point Lobos SMR which will result in a sharing of the Carmel submarine canyon between Point Lobos SMR and Carmel Bay SMCA.

Species: blue, black vermilion, copper, gopher, olive, black & yellow, grass, & kelp rockfish, kelp greenling, CA halibut, kelp bass, opaleye, rubberlip perch, black perch, pile perch, leopard shark, sheephead, lingcod, cabezon, spiny lobster, wolf eel

Boundaries: Revised boundary for Carmel Bay SMCA is a line from mean high tide line at existing northern boundary at 36º 33.64'N. lat 121º 57.07' W. long. to SW boundary at GPS intersection of 36º 31.60' N. lat. 121º 56.29' W. long. and following 36º 31.60' N. lat. to mainland shore (36º31.60 N. lat. 121º 55.52' W. long.). Southern boundary of the expanded SMCA touches the northern end of Monastery Beach. (Southern end of existing Carmel Bay SMCA is proposed to be ceded to Pt. Lobos Marine Reserve.)

Goals:

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds, pinnacles and submarine canyon head habitat, in depths of 0 to 200 ft (0-60 m), in close proximity to each other.

G2O1: Help protect and rebuild populations of bocaccio, widow, canary, and yelloweye rockfish through protection of their juvenile and/or adult stages due to the presence of a portion of the Rockfish Conservation Area within this MPA.

G2O3: Protect invertebrate species except squid and the habitats on which they depend, while allowing the recreational harvest of finfish and the commercial harvest of kelp and squid through the use of state marine conservation areas. Provide some protection to finfish species through the prohibition of commercial fishing for them.

G301: Ensure some MPAs are close to population centers such as the Monterey Peninsula and to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as scuba diving and kayaking.

G3O2: To enhance the likelihood of scientifically valid studies, replicate State Marine Conservation Area designations where recreational fishing is allowed, to the extent possible (see Pacific Grove State Marine Conservation Area).

G3O3: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal and shallow subtidal MPAs that link with classroom science curricula, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants.

G4O1: Include within MPAs the following habitat types: pinnacles, heads of submarine canyons.

G4O2: Protect, and replicate to the extent possible, representatives of shallow subtidal granitic (including pinnacles) and soft bottom marine habitats, and submarine canyon heads, within the depth range of 0 to 200 ft (0-60 m).

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Pt. Lobos State Marine Conservation Area

Rationale: This large, highly restrictive SMCA was designed to act as a powerful buffer for Point Lobos SMR. Extending out to the 3-mile state waters boundary, it only allows the harvest of salmon and spot prawns and thus provides great protection to threatened marine species. The combination of Point Lobos SMR, Point Lobos SMCA, Carmel Bay SMCA and Cypress Pinnacles SMR was designed as a tight cluster of MPA's that greatly increases the effectiveness of this area of the MPA network and it also provides a wide range of potential research projects.

See Julia Pfeiffer SMCA for discussion of spot prawn monitoring.

Regulations: SMCA prohibits the take of finfish and invertebrates EXCEPT for recreational and commercial fishing for salmon, and commercial fishing for spot prawns. This would be a high value SMCA.

Area: 5.9 sq. nm.

Habitats: Sandy and rocky. Combination of reef and sand bottom from @40 fathoms to 300 fathoms depth. Reef system includes many pinnacles.

Species: yelloweye, brown, bocaccio, chilipepper, yellowtail, blue, black, vermilion, copper & olive rockfish, CA halibut, sheephead, lingcod, cabezon, wolf eel, chinook salmon, blue shark

Boundaries: Pt. Lobos SMCA is bounded in north by 36º 31.600 N. lat. Eastern boundary is 121º 58' W. long. The western boundary is 3-mile state waters boundary. The southern boundary is 36º 29.50' N. lat. This SMCA lies west of and adjacent to Pt. Lobos SMR.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats. SAT Valuation: Two Stars.

G1O2: Protect areas with granitic and soft bottom habitat types, including pinnacles and submarine canyon habitat, in depths of 250 to 1800 ft (75-550 m), in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in representative habitats. SAT Valuation: Two Stars.

G2O1: Help protect and rebuild populations of bocaccio, cowcod, darkblotched, widow, canary, and yelloweye rockfish and the habitats and ecosystem functions upon which they rely.

G2O3: Protect most fish and invertebrate species and the habitats on which they depend, while allowing the recreational and commercial harvest of salmon and the commercial harvest of spot prawn through the use of state marine conservation areas.

G301: Ensure some MPAs are close to population centers such as the Monterey Peninsula and to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate State Marine Conservation Area designations in deeper water where spot prawn and salmon fishing are allowed, to the extent possible (see Monterey Canyon No-Trawl State Marine Conservation Area).

G3O3: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom MPAs in deeper water and submarine canyon habitats that link with classroom science curricula and fishermen of all ages, and identify participants.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations. SAT Valuation: Two Stars.

G4O1: Include within MPAs the following habitat types: heads of submarine canyons, and pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of submarine canyon and deeper pinnacle habitats.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Point Lobos State Marine Reserve

Rationale: We recommend expanding the size of Point Lobos SMR as it is a core-MPA site and a larger Point Lobos would significantly improve the network of central California MPA's. As there is good habitat all around its existing borders, we propose more than doubling the total square miles of water in this SMR and capturing more prime habitat in this SMR. This has been an excellent MPA site for much scientific research (including permanent intertidal and subtidal monitoring sites) with convenient proximity to Monterey. A larger Point Lobos SMR will improve opportunities for additional research. While an expanded Point Lobos SMR will create new opportunities for non-consumptive users, it does represent a ceding of prime fishing waters by both recreational and commercial fishing interests. On the west side of Lobos, there is sustainable spot prawn fishing in 50 fathoms or greater depths, so that is why we limited the SMR to approximately 45 fathoms. On the south side of Point Lobos SMR, there is every conceivable type of fishing going on including commercial (squid, rockfish, and salmon) and recreational (CPFV rockfish and salmon). These groups ceded waters to make this SMR expansion and it represents real sacrifice as these changes close some prime fishing grounds. Shifting the border further south to Malpaso Creek as others have suggested would severely impact fishing and is the reason why the south end of Point Lobos SMR is proposed as Yankee Point.

Regulations: No take allowed. Recommend to CDPR to modestly expand the number of day-use permits for non-consumptive divers, and to increase parking, if possible.

Area: 2.8 sq. nm. Along shore distance 3.7 statute miles measured as two straight lines connecting at the point.

Habitats: Sandy and rocky intertidal and upper end of Carmel submarine canyon. The habitat is mostly granite reef dropping from shore to sand bottom. The reef habitat has many crevices and pinnacles. The habitat also includes extensive giant kelp forest. Surfgrass, sand cobble, medium boulders and pinnacles comprise most of subtidal area. Abundant corallines, encrusting corallines and foliose reds are found throughout the subtidal zone. Expansion of Pt. Lobos SMR to the north will allow some of the upper end of Carmel submarine canyon to be included in Reserve waters. It will also include dramatic granite wall drops, i.e. Mono Lobo Wall, that are encrusted with hydrocorals.

Species: Black, blue, copper, olive, canary rockfish; black & red abalone; lingcod, bocaccio rockfish; vermilion, black-and-yellow, gopher, kelp, china rockfish; cabezon, kelp greenling, blue, black, vermiion, copper, gopher, olive, black & yellow grass, & kelp rockfish, kelp greenling, CA halibut, kelp bass, rubberlip perch, black perch, pile perch, leopard shark, sheephead, lingcod, cabezon, wolf eel, monkeyface eel, black, red, flat abalone

Boundaries: Northern boundary proposed 36º 31.60 N. lat. Western boundary proposed 121º 58' W. long. Southern boundary proposed 36º 29.50 N. lat. The southern end of the current Carmel Bay SMCA (Mono Lobo Wall and all of Monastery Beach) proposed to be ceded to Pt Lobos SMR. Modified Point Lobos SMR expanded westward into @50 fathom depth. Southern boundary extended approx. 1/2 mile south to Yankee Point.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m).

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m), in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m).

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m).

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp and surfgrass beds and pinnacles, from disturbances both natural and human induced.

G2O1: Help protect and rebuild populations of bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible (see Cypress Pinnacles State Marine Reserve)

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula and volunteer dive programs such as REEF fish counts, and identify participants.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range.

G4O1: Include within MPAs the following habitat types: pinnacles, heads of submarine canyons.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Julia Pfeiffer Burns State Marine Reserve

Rationale: The Julia Pfeiffer SMR, Julia Pfeiffer SMCA and the Big Creek SMR were designed as a unit to provide several research opportunities. The nearshore habitats of the Julia Pfeiffer and Big Creek areas are very similar and they are close enough together to expect that inter-year variation in recruitment will be similar in the two areas. This makes these areas truly replicates in a way that distant sites cannot duplicate. This MPA complex is also in the shadow of Point Sur, so it has upwelling and larvae retention value. Depending upon the configuration preferred by the SAT this unit would provide a comparison of nearshore SMRs, a highly protected SMCA and areas open to fishing all with very comparable habitat and within close proximity. Also See Julia Pfeiffer-Burns SMCA and Big Creek SMR, NOTE under “Boundaries.”

Regulations: No commercial or recreational fishing permitted, including no take of invertebrates.

Area: This SMR spans 4.15 statute (3.6 nautical) miles alongshore, and encompasses approximately 4.2 square nautical miles.

Habitats: Hard and soft bottoms in depth from 0 to 300 feet, intertidal rocky and sandy beaches, giant and bull kelp beds, boulder fields and pinnacles, submarine canyon heads, and a warm freshwater plume from upland hot springs.

Species: Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches, half banded , blue, pygmy, olive, gopher, bocaccio, shortbelly, copper & rosy rockfish, speckled & Pacific sanddab, blackeye goby, painted greenling, CA sea otter, chinook salmon, CA halibut, CA sheephead, white sea bass, sardines, anchovy, flounder, rock crab

Boundaries: The north boundary of this SMR is a line extending west from the northernmost of five highway bridges north of Lopez Point, while the southern boundary is a line extending west from the southernmost of the five bridges. The western boundary is the 50-fathom curve. It is encompassed by the following points: NE 36° 09.25’N, 121° 40.00’W; NW 36° 09.25’N, 121° 41.50’W; SW 36° 06.50’N, 121° 39.00’W; SE 36° 06.50’N, 121° 37.60’W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in high-relief granitic and soft bottom habitats, including kelp and surfgrass beds, pinnacles, and submarine canyon heads, in depths of 0 to 300 feet. Key indicator: high species diversity.

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp, submarine canyons, deep water, surfgrass beds and pinnacles, in close proximity to each other and in depths of 0 to 300 feet. Key indicator: habitat mapping and assessment.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp, submarine canyons, deep water, surfgrass beds and pinnacles, in depths of 0 to 300 feet. Key indicator: stock assessments to determine fauna size and age.

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp, submarine canyons, deep water, surfgrass beds and pinnacles, in depths of 0 to 300 feet.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal and deep rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: human consumptive effects outside of the reserve and their impact on the reserve; natural impacts on ecosystem function such as pinnipeds.

G2O1: Help protect and rebuild populations of bocaccio, cowcod, canary, widow, black and red abalone, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species.

G2O2: Protect larval sources and enhance reproductive capacity of shallow and deep rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, black and red abalone, and California halibut, through retention of large, mature individuals.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible, such as Point Lobos State Marine Reserve, Big Creek State Marine Reserve, and Alder Creek State Marine Reserve. Key indicator: comparative studies.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: non-consumptive use patterns.

G4O1: Include within MPAs the following habitat type: pinnacles and submarine canyon heads.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 300 feet.

G5O1: Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a potential dive area. Key indicator: non-consumptive use patterns.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Julia Pfeiffer Burns State Marine Conservation Area

Rationale: This SMCA and the Point Lobos SMCA are intended to be highly protected MPAs that allow fishing for salmon and spot prawn in deep water. According to research carried out by SAT members spot prawns are presently highly abundant. It is likely that this abundance is associated with the decreases in the populations of large fishes at depths near the shelf break. Assessment of the densities of spot prawn in areas where fishes are exploited versus areas where fishes are protected is the direct way to determine if there is a causal relationship between high abundance of spot prawns and low abundance of predators. Creation of several SMCAs that protect fishes but allow fishing for spot prawn will allow low cost fishery-dependent monitoring of spot prawn CPUEs inside and outside of replicate SMCAs.

Regulations: Commercial and recreational salmon and spot prawn take only allowed.

Area: This SMCA spans 4.15 statute miles alongshore outside of the SMR, and encompasses approximately 9 square nautical miles of area.

Habitats: Hard and soft bottoms in depth from 300 to 1975 feet, boulder fields and deep water pinnacles, and several heads of submarine canyons.

Species: Blue, Black, Olive, Gopher, Black-and-yellow, Vermilion and Copper rockfishes; Lingcod, Cabezon; bocaccio, shortbelly, copper & rosy rockfish, speckled & Pacific sanddab, blackeye goby, painted greenling, chinook salmon, CA halibut, white sea bass, sardines, anchovy, flounder

Boundaries: The northern and southern boundary lines of this SMCA are the same as those for the Julia Pfeiffer-Burns SMR. This SMCA begins at the outside of the SMR at 50 fathoms, and extends to the 3-mile limit. It is encompassed by the following points: NE 36° 09.25'N, 121° 41.50'W; NW 36° 09.25'N, 121° 45.50'W; SW 36° 06.50'N, 121° 42.50'W; SE 36°06.50'N, 121° 39.00'W.

NOTE: a second acceptable option for the Julia Pfeiffer-Burns SMR/SMCA complex would be to have the same footprint outline, but with the area divided roughly equally north-south. A SMR would encompass the northern half, while a SMCA would encompass the southern half. Both would have the same regulations as for the first complex proposal. We are leaving it up to the SAT to determine which configuration is more effective.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, submarine canyon heads, and pinnacles, in depths of 300 to 1975 ft. Key indicator: high species diversity.

G1O2: Protect areas with granitic and soft bottom habitat types, including submarine canyon heads and pinnacles, in depths of 300 to 1975 ft., in close proximity to each other. Key indicator: habitat mapping and assessment.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, submarine canyons and pinnacles, in depths of 300 to 1975 ft. Key indicator: stock assessments of cornerstone species.

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including submarine canyons and pinnacles, in depths of 300 to 1975 ft.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural deep water rocky and soft bottom communities, from disturbances both natural and human induced. Key indicator: comparison to similar habitats in less and/or more affected areas, such as the Monterey Bay submarine canyon.

G2O1: Help protect and rebuild populations of canary, widow, and yelloweye rockfishes through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments.

G2O2: Protect larval sources and enhance reproductive capacity of deep rocky and soft bottom species most likely to benefit from MPAs, through retention of large, mature individuals.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in deep and rocky and soft bottom habitats to the extent possible, such as Alder Creek SMCA. Key indicator: high species diversity.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles and submarine canyons. Key indicator: spillover effects in fished areas.

G4O1: Include within MPAs the following habitat type: pinnacles, submarine canyon heads.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 300 to 1975 ft. depth range.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Big Creek State Marine Reserve

Rationale: This SMR is to remain unchanged from the existing reserve. This is primarily because the original Big Creek SMR is the only existing MPA in the Central California area that has well documented baseline studies describing the fish densities present inside and outside of the area when the MPA was created. This reserve was created in 1994 and exhaustive scuba and submersible research transects were made in and around the reserve during the first years after it was established. Had the Department repeated these studies after the reserve had been in place for 10 years the information would have been of immense value to the present MLPA process.

Any MPA that alters the present Big Creek SMR will greatly diminish the value of this area as a long-term reference point for nearshore fishes. The historical transects in the areas open to fishing adjacent to the Big Creek SMR, and similar sites near the Punta Gorda SMR near Cape Mendocino, are the only long-term reference sites, with adequate sampling, for near-shore fishes in the entire California area.

Future evaluations of the effects of MPAs will be set back more than a decade if the Big Creek Reserve is expanded. The loss of the reference sites in the areas that remained open to fishing will be of particular significance for future evaluations of the confounding effects of the recently enacted nearshore fishery management plan and the soon to be enacted MPA network.

Regulations: No commercial or recreational fishing permitted, including no take of invertebrates. The area will retain its current no-entry regulations and exemptions.

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Area: This SMR spans approximately 2.52 statute (2.19 nautical) miles alongshore, and encompasses approximately 2.26 square nautical miles of area.

Habitats: Hard and soft bottoms in depths from 0 to 260 feet, intertidal rocky and sandy beaches, giant and bull kelp beds, boulder fields and some pinnacles.

Species: Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches; Widow, Canary rockfish, Black abalone, half-banded, blue, pygmy, olive, gopher, bocaccio, shortbelly, copper, rosy, speckled & Pacific sanddab, blackeye goby, painted greenling, CA sea otter, chinook salmon, CA halibut, CA sheephead, white sea bass, sardines, anchovy, flounder, rock crab

Boundaries: The boundaries of the existing Big Creek Reserve will be retained. It encompasses the area bounded by the following points: NE 36° 05.33'N, 121° 37.13'W; NW 36° 05.32'N, 121° 38.17'W; SW 36° 03.68'N, 121° 36.93'W; SE 36° 03.72'N, 121° 35.50'W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-00 m). Key indicator: species diversity.

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-90 m), in close proximity to each other. Key indicator: habitat mapping and assessment.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-90 m). Key indicator: stock assessment of cornerstone species.

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-90 m).

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: continued monitoring from baseline data already established.

G2O1: Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as the Landels-Hill Big Creek Reserve (terrestrial). Ensure some MPAs include areas of traditional non-

consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible, such as the Point Lobos State Marine Reserve.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: nearby non-consumptive recreational use patterns.

G4O1: Include within MPAs the following habitat type: pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 300 ft (0-90 m) depth range.

G5O1: Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a potential dive area. Key indicator: recreational use patterns.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation. Key indicator: building on existing baseline data.

Alder Creek State Marine Reserve

Rationale: This SMR includes hard and soft bottoms, kelp beds (giant and bull), gravel and boulder fields, and sandy and rocky intertidal areas. Though lacking the dramatic submarine canyons of the Julia Pfeiffer-Burns proposals, this area does include excellent high-relief areas and pinnacles over a good range of depths. Therefore it is a good replicate of the Big Creek and Julia Pfeiffer-Burns proposals to the north.

This area has high species diversification with many of the 19 NFMP finfishes present, as well as red and black abalone and southern sea otters. This site was chosen to be a good intermediary between the Julia P-B/Big Creek core area and the Cambria area, both to meet MLPA replicate and spatial guidelines and because it has good public access from shore, and excellent visibility from shore for enforcement purposes.

The Alder Creek proposal was initially conceived because of SAT and other stakeholder feedback that we had too large of a gap between the Julia Pfeiffer-Burns/Big Creek core area and the Cambria/Diablo Canyon core area. That particular spot was chosen because it contains similar bio-geographic elements present in both the north and south areas, it is in the lee of a prominent headland (Cape San Martin), and its access and visibility from shore spoke to the needs of several user groups. In addition, the northern boundary was extended approximately 1.25 miles further north based on feedback from RSG members promoting Package 3 that we didn't have enough protection in the area in that we 'didn't give up any headlands.

Regulations: No commercial or recreational fishing permitted, including no take of invertebrates.

Area: This SMR spans 6.34 statute (5.5 nautical) miles alongshore, and encompasses approximately 6.5 square nautical miles of area.

Habitats: Hard and soft bottoms in depth from 0 to 140 feet, intertidal rocky and sandy beaches, giant and bull kelp beds, boulder fields and some pinnacles, and a freshwater plume.

Species: CA halibut, sanddabs, Gobys, Cabezon, grass bass, kelp & rock greenling, Gopher cod, black, black & yellow, olive, white belly, vermilion rockfish; lingcod; rubberlip surfperch, leopard shark; wolf eel; monkeyface eel; sea otters, Sea lions, red rock crab, kelp crab, Widow, bocaccio rockfish (deep)

Boundaries: The northern boundary is a line drawn west from the prominent headland of Cape San Martin, and the southern boundary is a line drawn west from White Rock #2, also a prominent landmark. This SMR follows the one mile seaward contour line from shore, and it is encompassed by the following points: NE 35° 53.25'N, 121° 27.80'W; NW 35° 53.25'N, 121° 28.80'W; SW 35° 50.00'N, 121° 25.00'W; SE 35° 50.00'N, 121° 23.70'W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet. Key indicator: high species diversity.

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet, in close proximity to each other. Key indicator: habitat mapping and assessment.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet.

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (consumptive, urban, agricultural) versus natural (pinniped impacts, regime shifts) impacts.

G2O1: Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. Key indicator: stock assessments and spillover of key species.

G3O1: Ensure some MPAs are close to research and education institutions, such as the Landels-Hill Big Creek Reserve (terrestrial). Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible, such as the Point Lobos State Marine Reserve and Big Creek State Marine Reserve.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: recreational use patterns.

G4O1: Include within MPAs the following habitat type: pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 140 feet depth range.

G5O1: Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a potential dive area. Key indicator: recreational use patterns.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Alder Creek State Marine Conservation Area

Rationale: This SMCA extends total protection to all benthic species in a complementary fashion to the Alder Creek SMR inside. It includes hard and soft bottoms, gravel and boulder fields. This area does include excellent high-relief areas and pinnacles over an incredible range of depths. Therefore it is a good replicate of the Julia Pfeiffer-Burns SMCA proposal to the north.

This area has high species diversification into deep inky depths, with many important benthic finfishes and invertebrates present. This site was chosen to be a good intermediary MPA grouping between the Julia P-B/Big Creek core area and the Cambria core area, both to meet MLPA replicate and spatial guidelines.

Regulations: Commercial and recreational salmon and coastal pelagic take only allowed.

Area: This SMCA spans offshore approximately 6.34 statute (5.5 nautical) miles, and encompasses approximately 12 square nautical miles of area.

Habitats: Hard and soft bottoms in depth from 120 to 1300 feet, boulder fields and some deep water pinnacles, and the head of a submarine canyon.

Species: CA halibut, sanddabs, Gobys, Cabezon, grass bass, kelp & rock greenling, Gopher cod, black, black & yellow, olive, white belly, vermilion rockfish; lingcod; rubberlip surfperch, leopard shark; wolf eel; monkeyface eel; sea otters, Sea lions, red rock crab, kelp crab, Widow, bocaccio rockfish (deep)

Boundaries: The inner (eastern) boundary of this SMCA is the seaward boundary of the Alder Creek SMR, and the outer boundary is the 3-mile State line. It is encompassed by the following points: NE 35° 53.25’N, 121° 28.80’W; NW 35° 53.25’N, 121° 32.25’W; SW 35° 50.00’N, 121° 29.30’W; SE 35° 50.00’N, 121° 25.00’W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp, canyon heads, deep water, surfgrass beds, and pinnacles, in depths of 120 to 1300 feet. Key indicator: high species diversity.

G1O2: Protect areas with granitic and soft bottom habitat types including submarine canyons and deep water, and pinnacles, in depths of 120 to 1300 feet and in close proximity to each other. Key indicator: mapping and habitat assessment.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including submarine canyons, deep water, and pinnacles, in depths of 120 to 1300 feet. Key indicator: stock assessments.

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including submarine canyons, deep water, and pinnacles, in depths of 120 to 1300 feet.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural rocky and soft bottom communities, including pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (consumptive, urban, agricultural) versus natural (pinniped impacts, regime shifts) impacts.

G2O1: Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely.

G2O2: Protect larval sources and enhance reproductive capacity of species most likely to benefit from MPAs through retention of large, mature individuals. Key indicator: stock assessments of key species.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in rocky and soft bottom habitats to the extent possible, such as the Julia Pfeiffer Burns State Marine Conservation Area.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles.

G4O1: Include within MPAs the following habitat type: pinnacles, submarine canyon head.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 120 to 1300 feet depth range.

G5O1: Minimize negative socioeconomic impacts by allowing take of salmon and coastal pelagics, and spot prawns. Key indicator: commercial fish landings and fishing infrastructure health.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Point Piedras Blancas State Marine Reserve

Rationale: The Piedras Blancas is a robust and dynamic area, and though not documented, the lee of the point is a likely larval retention area. It is well protected from the weather, has relatively

deep waters near to shore, and has become a very important year-round haul-out and breeding area for Northern Elephant Seals. Sea otters are also present here.

This proposal was added after the December RSG meeting in response to other conservation stakeholders that there needed to be more protection in this area, especially in the intertidal areas, due to ever-increasing usage of the area because of the elephant seal presence, and the newly-acquired State (public) lands on the coast that were previously held privately. While we felt that, between Alder Creek and Diablo Canyon, sufficient protection was present in our package, we did feel that additional intertidal protection was warranted, and at the same time we were able to provide a small amount of additional reserve protection in a very unique micro-habitat area.

Regulations: No commercial or recreational fishing permitted, including no take of invertebrates.

Area: This SMR encompasses approximately 3.46 statute miles alongshore. The area of the nearshore waters in the "haystack" area is roughly 0.3 nautical miles.

Habitats: Hard and soft bottoms in depths from 0 to 60 feet, intertidal rocky and sandy beaches, giant and bull kelp beds, boulder fields, pinnacles, and dramatic high-relief shallow-water trenches.

Species: Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches; Widow, Canary rockfish, Black abalone, half-banded, blue, pygmy, olive, gopher, bocaccio, shortbelly, copper, rosy, speckled & Pacific sanddab, blackeye goby, painted greenling, CA sea otter, chinook salmon, CA halibut, CA sheephead, white sea bass, sardines, anchovy, flounder, rock crab

Boundaries: The northern boundary of this SMR will begin at the tip of the point, then continue in a straight-line to the southern "haystack" rock island approximately 1/2 mile SE of the point, then continue straight-line due east until reaching the shore. From there, the reserve will be intertidal out to the 100-foot mark down coast until Arroyo Laguna beach, approximately 1.5 nautical miles away. It is encompassed by the following points: Point 35° 40.00'N, 121° 17.10'W; Haystack Rock 35° 39.50'N, 121° 16.10'W; Shore 35° 39.50'N, 121° 15.25'W; Arroyo Laguna 35° 39.20'N, 121° 13.60'W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds, and pinnacles, in depths of 0 to 60 ft. Key indicator: high species diversity.

G1O2: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 60 ft, in close proximity to each other. Key indicator: mapping and habitat assessment.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 60 ft.

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 60 ft.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (consumptive, urban, agricultural, tourism) versus natural (pinniped impacts, regime shifts) impacts.

G2O1: Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as the Landels-Hill Big Creek Reserve (terrestrial). Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible, such as the Point Lobos and Big Creek State Marine Reserves.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: recreational use patterns.

G4O1: Include within MPAs the following habitat type: pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 60 ft. depth range, such as the Big Creek and Alder Creek SMRs.

G5O1: Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal and nearshore marine communities in a potential dive area. Key indicator: recreational use patterns.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Cambria State Marine Park

Rationale: Excellent giant and bull kelp beds are present in this SMP proposal, which harbor a wide variety of the 19 NFMP finfishes, red and black abalone, and southern sea otters. The coastline along this MPA is mostly rocky reef and low profile subtidal habitats from shore to around the 20-fathom curve, although several broad sand and some gravel beaches are intermixed as well. These are important recreational surfperch areas. In addition, wide expanses of moderate sandy depths harbor many flatfishes including halibut and flounder, as well as crab. Elephant seals have been known to occasionally haul-out in the northern part of this proposal's area. Some nearshore pinnacles exist in the southern end of the area centered around Von Helm Rock. That these proposals lie in the downcoast lee of San Simeon point, a prominent headland, make them likely larval retention areas.

This SMP has had several iterations in our package since our initial proposal. Most changes have been in response to feedback from the Cambria Fishing Club. Our second version of this SMP was a 1/2-mile wide park running from Pico Creek to Von Helm Rock. With further feedback that our distance from shore was insufficient to protect the area from commercial take, we moved that western boundary out to one mile, but moved the northern boundary down to San Simeon Creek to not unduly burden commercial interests that use the area from shore-launched vessels by not forcing them far and wide from their launching point.

Regulations: Recreational fishing only allowed, no commercial fishing, however, commercial shore-launched craft are permitted to transit the area.

Area: This SMP spans 4.72 statute (4.1 nautical) miles alongshore, and encompasses approximately 4.75 square nautical miles.

Habitats: Giant and bull kelp beds, rocky reef and low profile subtidal habitats from shore to around the 20-fathom curve, broad sand and gravel beaches. Some nearshore pinnacles exist in the southern end of the area centered around Von Helm Rock. That these proposals lie in the downcoast lee of San Simeon point, a prominent headland, make them likely larval retention areas.

Species: Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion, China and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches, flounder, CA halibut, white sea bass, surfperch, rock crab, black & red abalone, sea otters

Boundaries: The northern boundary of this park runs through a prominent rock offshore at San Simeon Creek, while the southern boundary runs through Von Helm Rock just south of Cambria. The western boundary follows the 1-mile offshore contour line. It is encompassed by the following points: NE 35° 35.80'N, 121° 07.70'W; NW 35°35.80'N, 121°09.80'W; SW 35° 32.25'N, 121° 06.70'W; SE 35° 32.25'N, 121° 05.25'W.

Goals:

G2O3: Protect selected species and the habitats on which they depend while allowing the harvest of migratory, highly mobile, or other species where appropriate through the use of a state marine park. Key indicator: recreational consumptive use patterns and fish landing assessment.

G3O1: Ensure some MPAs are close to population centers (Cambria, Paso Robles, San Luis Obispo) and research and education institutions (K-12, Cuesta College and Cal Poly) and include areas of traditional non-consumptive recreational use and are accessible for recreational, educational, and study opportunities.

G3O4: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations by prohibiting commercial fishing. Key indicator: recreational consumptive use patterns and fish landing assessment.

G5O1: Minimize negative socio-economic impacts and optimize positive socio-economic impacts for all users, especially recreational fishing, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines. Key indicator: assess economic impact on commercial fishing interests.

Morro Strand Invertebrate State Marine Conservation Area

Rationale: This proposal is an adjustment to the existing Atascadero Beach Pismo Clam Preserve. The geographic relocation is made to insure that the conservation area encompasses the decommissioned Navy jet fuel terminal intake pipelines which are conceptually proposed as the site for a selenium-tainted water remediation discharge project now being considered as an alternative in by the BOR/Westland's water district, and to locate the entire conservation area adjacent to the jurisdiction of the State Parks. While the existing preserve extends out to the 3-mile limit, this MPA proposal brings that limit back to roughly 1-mile offshore. This proposal adds a complete no-invertebrate take component for the entire area for potential restoration of Pismo clam populations, which generally do not live beyond about thirty meters deep. These seaward limits would also bring this nearshore invertebrate SMCA in line with other proposed nearshore invertebrate SMCAs in the study region.

This beach area is a prime habitat for Pismo clams. Pismo clam populations prior to European settlement of California are unknown, but large shell middens indicate that clams were common food for Native Americans. Clams on these beaches were ubiquitous prior to the recovery of the sea otter, with indisputable evidence of huge populations throughout the central coast. Clam populations were in collapse or significant decline in the early 1980 when the clams preserve were legislatively created to test if prohibiting human take would have an impact on populations. While studies have shown that the failure of the existing preserves to show clam population gains is due to sea otter predation, and not human take, we feel that they should not be abandoned as restoration of these clam populations would be of high value biologically and socially. More effort should be put into creative methods to limit the otter predation in specific areas to allow breeder invertebrates to naturally repopulate this prime habitat, or possibly establish a larval clam grow-out and re-seeding program.

No one expects that clam populations will be restored to the robust levels of pre otter recovery, but it may well be that for reasons unknown, the populations have not rebounded to pre-European settlement equilibrium with sea otter populations. These areas will allow biological and water quality research and monitoring opportunities on these issues. Because this conservation area is located between Morro and Toro creeks, is near the Morro Bay sewer outfall, and it covers the area proposed in the selenium remediation discharge concept, this may be excellent candidate for an area of special biological significance designation. Nearshore invertebrate SMCAs proposed in the study region would be excellent locations to monitor water quality and its effects on the environment, and recommend measures and funding mechanisms to improve it.

For these reasons, a "micro-network" of invertebrate protection areas is recommended with the Morro Strand, Morro Beach Sandspit, and Pismo-Oceano MPAs.

Regulations: No-take of any invertebrates allowed.

Area: This SMCA spans 1.15 statute (1.0 nautical) miles alongshore, and encompasses 0.5 square nautical miles in area.

Habitats: Primarily soft sandy bottom from tidal to approximately 10-fathom depths, and rocky tidal and subtidal areas at the north end of the SMCA.

Species: ca halibut, surfperch, shiner perch, sardine, anchovy, smelt, rock crab, white sea bass, pismo clams, razor clams

Boundaries: The northern boundary is a line drawn west from the northernmost rocks at North Point in Morro Bay, while the southern boundary is a line drawn west from the Azure street access in north Morro Bay. It is encompassed by the following points: NE 35° 24.50'N, 120° 52.33'W; NW 35° 24.50'N, 120° 52.75'W; SW 35° 23.53'N, 120° 52.75'W; SE 35° 23.53'N, 120° 52.00'W.

Goals:

G1O3: Protect natural size and age structure and genetic diversity of invertebrate populations in sand and rocky intertidal habitats, in depths from 0 to 10 fathoms. Key indicator: invertebrate stock assessment and water quality analysis.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of sandy and rocky intertidal and nearshore communities, from disturbances both natural and human induced, such as water quality impacts. Key indicator: encompassing replicate soft bottom habitat for forty miles of coastline in prime Pismo clam habitat, where there currently are no or very few clams. The Morro Beach Sandspit SMR is included as a "control" area that has little or no human use or water quality impacts. The two book-ending conservation areas may have measurable human use water quality impacts.

G2O3: Protect intertidal and shallow subtidal soft-bottom and rocky intertidal invertebrate species and the habitats on which they depend while allowing the harvest of finfish by hook-and-line through the use of state marine conservation areas.

G3O1: Ensure some MPAs are close to population centers such as San Luis Obispo, include areas of traditional non-consumptive recreational use, such as beach walking and are accessible for recreational, educational, and study opportunities.

G4O2: Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal soft bottom and rocky intertidal habitats.

G5O1: Minimize negative socio-economic impacts to recreational and commercial fin fisheries in shallow soft bottom habitats in the San Luis Obispo area while providing protection for invertebrates.

Morro Bay Harbor State Marine Conservation Area

Rationale: Morro Bay harbor is one of only two tidal estuaries found in the study region. The estuary is recognized as an important nursery ground for countless species, including many species of concern. Southern sea otters make their home there, and harbor seals haul-out and pup in the bay. Two steelhead creeks, Chorro and Los Osos, have their confluences inside the bay.

While Morro Bay harbor was once fished heavily by several commercial interests, it no longer is. However, it is fished extensively by recreational fishermen. During often-time rough spring and summer wind conditions, the harbor provides a safe area for small to moderate vessels to fish for halibut, bat rays, rockfish, lingcod, and perch. The numerous public piers and revetment areas provide "family" and low-income/subsistence fishing and crabbing opportunities not available elsewhere. For these reasons Morro Bay harbor is a good candidate for a SMCA that allows

recreational fishing only. Since commercial oyster bed leases exist in the back bay, and live bait is commercially received, the area of this SMCA is not a candidate for a “park” designation.

In addition, the Morro Bay Harbor SMCA would be an excellent location to monitor water quality and its effect on the estuarine environment, and recommend measures and funding mechanisms to improve it. This SMCA and its monitoring/management would dovetail well into the Morro Bay National Estuary's program of watershed, water quality, and ecosystem monitoring, management, and improvement programs.

Regulations: Recreational fishing allowed. Commercial oyster farming and bait receiving allowed. No commercial fishing.

Area: This SMCA encompasses approximately 2.98 square nautical miles of area, and has a bayside shore span of approximately 11.2 statute miles.

Habitats: This area contains extensive tidal and subtidal eelgrass beds, intertidal marshes, rocky and sandy habitats, and some small kelp bed areas (giant and bull).

Species: blue, black, olive, kelp, grass, gopher, copper, china, black & yellow rockfish, treefish, vermilion rockfish, lingcod, cabezon, kelp greenling, CA halibut, pile perch, rubberlip perch, striped perch, black perch, blacksmith, sheephead, white sea bass, wolf eel

Boundaries: This SMCA encompasses all of the waters inside of Morro Bay, excluding the area encompassed within the Morro Bay East SMR, and its westerly boundary is the Colregs Demarcation Line drawn between the two jetty tips at the following points: NW 35°21.77’N, 120° 52.18’W; SE 35° 21.68’N, 120° 52.03’W.

Goals:

G2O3: Protect species from commercial fishing and the habitats on which they depend while allowing the harvest of migratory, highly mobile, or other species where appropriate by recreational take through the use of a state marine conservation area. Key indicator: recreational consumptive use patterns.

G3O1: Ensure some MPAs are close to population centers such as Morro Bay, include areas of traditional non-consumptive recreational use, such as sailing and bird watching, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate shallow soft bottom habitats in SMPs open to recreational finfish fishing only, such as Cambria SMP or the Morro Bay Harbor East SMR.

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with fisheries management information needs, classroom science curricula, volunteer dive programs, and recreational fishermen of all ages.

G4O1: Include within MPAs the following habitat type: estuaries

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Morro Bay Harbor East State Marine Reserve

Rationale: Two steelhead creeks, Chorro and Los Osos, have their confluences in the area of this SMR. In addition, numerous tidal eelgrass beds and soft-bottom channels provide protection and nursery ground for numerous species of fish and invertebrates. The area of this proposal is wholly under the jurisdiction of the State Parks system, which has close-by resident Rangers and other personnel.

This SMR was added to increase the level of protection in critical estuarine areas, and was taken directly from proposals in both packages number 2 and 3 based on feedback from the proponents of those packages.

Regulations: No commercial or recreational fishing permitted, including no take of invertebrates.

Area: This SMR encompasses approximately 0.32 square nautical miles of area, and has a bayside shore span of approximately 1.5 statute miles.

Habitats: Extensive estuarine tidal and subtidal eelgrass beds and marshes, soft-bottom channels, confluences of two steelhead creeks.

Species: Grass rockfish, ca halibut, surfperch, pile perch, sardine, anchovy, smelt, leopard shark, bat ray, steelhead trout, rock crab, olive rockfish; black abalone, lingcod, bocaccio, rubberlip perch

Boundaries: This SMR encompasses the eastern “lobe” of the Morro Bay estuary, and is bounded by a north-south line drawn between the two points: N 35° 20.47’N, 120° 50.37’W; S 35° 19.95’N, 120° 50.37’W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in estuarine eelgrass, soft bottom channel, and tidal marsh habitats. Key indicator: species diversity and water quality analysis.

G1O3: Protect natural size and age structure and genetic diversity of populations in estuarine and eelgrass bed habitats, including soft bottom and marshy areas.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural estuarine and eelgrass bed communities, from disturbances both natural and human induced. Key indicator: assessment of human impacts (urban, agricultural) versus natural (fresh water runoff, sand accretion).

G3O1: Ensure some MPAs are close to population centers such as Morro Bay, include areas of traditional non-consumptive recreational use, such as sailing and bird watching, and are accessible for recreational, educational, and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate shallow soft bottom estuarine habitats in SMRs, such as Elkhorn and Moro-Cojo Estuary SMRs.

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with fisheries management information needs, classroom science curricula, volunteer dive programs, and recreational fishermen of all ages.

G4O1: Include within MPAs the following habitat type: estuaries

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Morro Beach Sandspit State Marine Reserve

Rationale: Encompassing replicate soft bottom habitat for coastline in prime Pismo clam areas, where there currently are no or very few clams, the Morro Beach Sandspit SMR is included as a "control" area which has little or no human use or water quality impacts. However, the two book-ending conservation areas (Morro Strand and Pismo-Oceano) may have human use water quality impacts. This micro network will be a unique opportunity for scientific study of natural predator and water quality impacts on invertebrates and their predators, should funding and serious interest from the scientific community emerge in these areas.

Regulations: No commercial or recreational fishing permitted, including take of invertebrates.

Area: The longshore span of this MPA is 1.5 statute (1.3 nautical) miles, and it is approximately 0.63 square nautical miles in area.

Habitats: This MPA is primarily soft sandy bottom from tidal to 10 fathoms, but has some small hard bottom areas in the 5-fathom range.

Species: ca halibut, surfperch, shiner perch, sardine, anchovy, smelt, rock crab, white sea bass, pismo clams, razor clams

Boundaries: This MPA is encompassed by the following points on the ocean side of the Morro Bay Sandspit: NE 35° 20.00'N, 120° 52.90'W; NW 35° 20.00'N, 120° 52.75'W; SW 35° 18.75'N, 120° 52.75'W; SE 35° 18.75'N, 120° 52.30'W.

Goals:
G1O3: Protect natural size and age structure and genetic diversity of populations in soft sandy tidal and intertidal areas in depths from 0 to 60 feet. Key indicator: stock assessment of key species present.

G1O4: Protect natural trophic structure and food webs in soft sandy tidal and intertidal areas in depths from 0 to 60 feet.

G2O1: Help protect and rebuild populations of Pismo clams through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely.

G2O2: Protect larval sources and enhance reproductive capacity of shallow soft bottom species most likely to benefit from MPAs, such as Pismo clams and other tidal invertebrates through retention of large, mature individuals. Key indicator: continued stock assessment of key species.

G3O1: Ensure some MPAs are close to population centers such as San Luis Obispo, include areas of traditional non-consumptive recreational use, such as beach walking and are accessible for recreational, educational, and study opportunities.

G4O2: Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal soft bottom habitats.

G5O1: Minimize negative socio-economic impacts to recreational and commercial fin fisheries in shallow soft bottom habitats in the San Luis Obispo area while providing protection for invertebrates.

Diablo Canyon State Marine Reserve

Rationale: This SMR proposal builds on the existing de-facto marine reserve that is the 1-mile radius security exclusion zone around the Diablo Canyon Nuclear Power Plant area. Since it is off-limits to all vessels, it is a logical place to build an MPA. Although the power plant does have thermal and larval impingement impacts on the ecosystem, those impacts will eventually be mitigated by the process that is underway at this time with the Regional Water Quality Control Board. It should also be noted that the thermal effects only affect part of our proposed MPA, as the thermal plume does not fully expand to the 1-mile radius limit or into our proposed reserve area. The plume is limited in its area of influence and should not be cause for dismissal of this proposed reserve Area.

Siting of this MPA will take advantage of the long-established PG&E marine lab, which has conducted extensive marine ecosystem studies and education since the plant's operational beginning in the late 1970's. Having an area with thermal effects with neighboring, similar habitats without thermal effects, both of which are off limits to fishing, should set up a unique scientific study opportunity of thermal effects.

Regulations: No commercial or recreational fishing permitted, including no take of invertebrates.

Area: This SMR has a 3.6 statute (3.13 nautical) mile shoreline length, and encompasses roughly 2.25 square nautical miles of area.

Habitats: Extensive hard shale, soft sand and gravel bottoms in depths from tidal to 30 fathoms, extensive giant and bull kelp beds, intertidal rocky areas and sand beachlets.

Species: black, blue, copper, olive rockfish, bocaccio rockfish, black & red abalone, lingcod, cabezon, sheephead, flounder, CA halibut, white sea bass, surfperch, perch, sardines, anchovy, calico bass, all shallow & nearshore rockfish, sea otters

Boundaries: The SMR in this proposal is three lines running tangential to the current 1-mile radius Diablo Canyon Nuclear Power Plant security exclusion zone around the plants intake structure cove. The two coves that harbor the inlet and outlet structures for the plant will not be in the SMR, as boundary lines will be drawn specifically to not include them. The SMR is encompassed by the following points: NW 35° 13.61'N, 120 52.50'W; SW 35° 11.43'N, 120° 52.50'W; SE 35° 11.43'N, 120° 50.30'W; NE 35° 11.83'N, 120° 50.30'W.

Goals:
G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key assessment: high species diversity.

G1O2: Protect areas with hard shale and soft bottom habitat types, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet and in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in hard and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key indicators: continuation of the PG&E Marine Lab's on-going studies of the marine habitat in the area of the power plant; assessment of kelp and surfgrass beds in close proximity to the power plant.

G104: Protect natural trophic structure and food webs in hard and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including giant and bull kelp, surfgrass beds, and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (agricultural, consumptive, power plant) versus natural (pinnipeds, regime shifts).

G2O1: Help protect and rebuild populations of red and black abalone, bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as red and black abalone, blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as PG&E Marine Lab, Cuesta College, and Cal Poly San Luis Obispo and may be accessible for educational and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore rocky and soft bottom habitats to the extent possible, as in the Big Creek and Alder Creek State Marine Reserves.

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs in the vicinity of a power plant and identify participants such as the PG&E Marine Lab.

G3O4: Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of marine populations in an adjacent state marine reserve. Key indicator: recreational use patterns and fish landing data.

G4O1: Include within MPAs the following likely habitat type: pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 180 ft (0-55 m) depth range.

G5O1: Minimize negative socio-economic impacts to the fishing community in the Morro Bay/Port San Luis area, to the extent possible, by creating a state marine reserve in an area already closed to all fishing due to national security considerations. Key indicator: socio-economic studies to focus on effects on commercial fishing fleet and its harbor infrastructure.

G5O2: Develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Diablo Canyon State Marine Conservation Area

Rationale: This SMCA is a highly productive area of soft and hard rocky reefs and kelp forests. Many of the 19 NFMP fishes are present, as are red and black abalone and southern sea otters. The area is very isolated by land, and moderately isolated by sea. However, the State Park system will eventually open some of the newly State-acquired land to the north of the power plant to public use, so non-consumptive uses will benefit from this MPA. Since it is in the downcoast lee of Point Buchon, it is a likely larval retention area.

The area of this proposal has been traditionally fished extensively by both commercial and recreational interests, especially for bottom fish. However, sufficient coast will remain open to fishing to the south of this SMCA and the Diablo Canyon SMR to accommodate safe passage of smaller vessels operating out of Port San Luis, and sufficient coast will remain open to fishing to the north of the SMCA to not force vessels operating out of Morro Bay to "hop-scotch" into open waters.

Regulations: Commercial and recreational salmon fishing only allowed.

Area: This SMCA has a 0.7 statute (0.6 nautical) mile shoreline component, but it's offshore component spans 3.7 statute (3.2 nautical) miles shore-wise. We have not calculated its area.

Habitats: Hard shale and soft sand and gravel bottoms in depths from tidal to 40 fathoms, extensive giant and bull kelp beds, intertidal rocky areas.

Species: black, blue, copper, olive rockfish, bocaccio rockfish, black & red abalone, lingcod, cabezon, sheephead, flounder, CA halibut, white sea bass, surfperch, perch, sardines, anchovy, calico bass, all shallow & nearshore rockfish, sea otters

Boundaries: The Diablo Canyon SMCA is immediately west of the Diablo Canyon SMR, and extends to the 40-fathom line. It is encompassed by the following points: NE 35° 14.00'N, 120° 53.00'W; NW 35° 14.00'N, 120° 55.58'W; SW 35° 11.43'N, 120° 53.25'W; SE 35° 11.43'N, 120°52.50'W; ENE 35° 13.61'N, 120° 52.50'W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key indicator: high species diversity.

G1O2: Protect areas with granitic and soft bottom habitat types, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet and in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key indicator: assessment of kelp and surfgrass beds in close proximity to the power plant.

G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including giant and bull kelp, surfgrass beds, and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (agricultural, consumptive, power plant) versus natural (pinnipeds, regime shifts).

G2O1: Help protect and rebuild populations of red and black abalone, bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as red and black abalone, blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals.

G3O1: Ensure some MPAs are close to research and education institutions, such as PG&E Marine Lab, Cuesta College, and Cal Poly San Luis Obispo and may be accessible for educational and study opportunities.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore rocky and soft bottom habitats to the extent possible. (See Big Creek and Alder Creek State Marine Reserves.)

G3O3: Develop collaborative scientific monitoring and research projects evaluating MPAs in the vicinity of a power plant and identify participants such as the PG&E Marine Lab.

G3O4: Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of marine populations in an adjacent state marine reserve. Key indicator: recreational use patterns and landing data collection.

G4O1: Include within MPAs the following likely habitat type: pinnacles.

G4O2: Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 180 ft (0-55 m) depth range.

G5O1: Minimize negative socio-economic impacts to the fishing community in the Morro Bay/Port San Luis area, to the extent possible, by creating a state marine reserve in an area already closed to all fishing due to national security considerations. Key indicator: socio-economic studies to focus on effects on commercial fishing fleet and its harbor infrastructure.

G5O2: Develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Pismo-Oceano Invertebrate State Marine Conservation Area

Rationale: This proposal is an adjustment to the existing Pismo-Oceano Pismo Clam Preserve. While the existing preserve extends out to the 3-mile limit, this MPA proposal brings that limit back to roughly 1-mile offshore. This proposal adds a complete no-invertebrate take component for the entire area for potential restoration of Pismo clam populations, which generally do not live beyond about thirty meters deep. These seaward limits would also bring this nearshore invertebrate SMCA in line with other proposed nearshore invertebrate SMCAs in the study region.

While studies have shown that the failure of the existing reserves to show clam population gains is due to sea otter predation, and not human take, we feel that they should not be abandoned as

restoration of these clam populations would be of high value biologically and socially. More effort should be put into creative methods to limit the otter predation, or possibly establish a larval clam grow-out and re-seeding program.

Finally, all nearshore invertebrate SMCAs proposed in the study region would be excellent locations to monitor water quality and its effects on the environment, and recommend measures and funding mechanisms to improve it. This site in particular is the location of a major seasonal river that is subject to urban and agricultural runoff.

Regulations: No-take of any invertebrates allowed.

Area: This MPA spans a 4.0 statute (3.5 nautical) mile shoreline length, and is approximately 4.4 square nautical miles in area.

Habitats: Primarily soft sandy bottom from tidal to approximately 15-fathom depths; confluence of the seasonal Santa Maria river and Oso Flaco creek.

Species: White sea bass, CA halibut, Surfperch, Salmon, Clams, Flounder, Rock crab, Sardines, Anchovy, Sea otters

Boundaries: The boundary of this SMCA makes the same landfalls as the current Pismo-Oceano Beach Pismo Clam Preserve, which are the mouth of the Oso Flaco creek to the north, and the mouth of the Santa Maria River (Santa Barbara-San Luis Obispo county line) to the south. It is encompassed by the following points: NE 35° 01.75'N, 120° 38.07'W; NW 35° 01.75'N, 120° 40.00'W; SW 34° 58.55'N, 120° 40.00'W; SE 34° 58.55'N, 120° 38.92'W.

Goals:

G1O1: Within intertidal zone and out to 10 fathoms, protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats. Key indicator: high invertebrate species diversity.

G1O3: Within intertidal zone and out to 10 fathoms, protect natural size and age structure and genetic diversity of populations in representative habitats. Key indicator: stock assessment of cornerstone invertebrates.

G2O3: Protect intertidal, shallow subtidal, and nearshore soft-bottom invertebrate species and the habitats on which they depend while allowing the harvest of finfish by hook-and-line through the use of state marine conservation areas.

G3O1: Ensure some MPAs are close to population centers such as San Luis Obispo, include areas of traditional non-consumptive recreational use, such as beach walking and are accessible for recreational, educational, and study opportunities.

G4O2: Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal soft bottom habitats.

G5O1: Minimize negative socio-economic impacts to recreational and commercial fin fisheries in shallow soft bottom habitats in the San Luis Obispo area while providing protection for invertebrates. Key indicator: recreational use patterns.

Vandenberg State Marine Reserve

Rationale: This MPA builds on the existing Vandenberg Marine Resources Protection Act Ecological Reserve. The current ecological reserve area would be maintained, but the north boundary is extended further north to the boundary of Danger Zone 4, therefore creating a much larger and more effective nearshore reserve.

In addition, according to the DFG preliminary analysis for Vandenberg, this area appears to function well in protecting high population densities of black abalone. No other site along south-central California mainland contains as high densities of black abalone as this area does.

With the freshwater plume at the Santa Ynez River mouth, this site would benefit by coordination with Regional Water Quality Control Board monitoring to establish water quality monitoring sites at the Bear Creek and Santa Ynez river watershed confluences with the ocean (An existing pilot project is now underway through Region 3 RWQCB for monitoring the Santa Maria River, with plans to expand to Santa Ynez River).

This proposal was a modification of our earlier proposal based on feedback from the proponents of package #3 that there was not enough reserve protection in our package in the Pt. Arguello area. Common ground was found that in lieu of a reserve at Purisima Point, a larger reserve component in our proposal would provide like-protection. Therefore we “connected” our two original reserve areas into one larger, more cohesive area.

Regulations: No commercial or recreational fishing permitted, including take of invertebrates.

Area: The shoreline length is approximately 9.6 statute (8.3 nautical) miles, and the area is approximately 11.6 square nautical miles.

Habitats: This MPA encompass nearshore high-energy rocky reef habitat, sandy bottoms and beaches, and a steelhead river confluence. The deepwater Arguello Canyon is nearby, and this area is a dynamic interface between the southern Californian bioregion and the Oregonian bioregion.

Species: CA Halibut, Greenling, Black, Blue rockfish, Red & black abalone, black, blue, brown, copper, olive, vermilion rockfish, lingcod, cabezon, Greenling, Black, Blue, Copper, Olive, Canary, Brown (Bolina), Vermilion, Gopher rockfish, Cabezon, Lingcod, Black abalone, White sea bass, Flounder, Sanddabs, Surfperch, Salmon, Scorpionfish, Rock crab, Lobster, Squid, Sardines, Anchovy, Sea lions, Sea otters, Elephant seals, Snowy Plover

Boundaries: The northern boundary is a line extending west along the Danger Zone 4 northern boundary, and seaward to 15-fathoms. The southern boundary is the existing boundary of the Ecological Reserve, and seaward to 15-fathoms. It is encompassed by the following points: NE 34° 41.75’N, 120° 36.15’W; NW 34° 41.75’N, 120° 38.50’W; SW 34° 32.70’N, 120° 38.75’W; SE 34° 33.45’N, 120° 37.67’W. The western boundary is the 15-fathom curve.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom habitats, including tidal

flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms. Key indicator: high species diversity.

G1O2: Protect areas with shale and soft bottom habitat types, including tidal flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms, in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in shale and soft bottom habitats, including tidal flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms. Key indicator: stock assessments of cornerstone species.

G104: Protect natural trophic structure and food webs in shale and soft bottom habitats, including tidal flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms.

G1O5: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal and shallow subtidal hard and soft bottom communities from disturbances both natural and human induced. Key indicator: assessment of human impacts (nearby consumptive, agricultural runoff, military operations) versus natural (regime shifts, pinniped effects, river/creek runoff).

G2O1: Help protect and rebuild populations of bocaccio and canary rockfish through protection of their juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as brown and vermilion rockfishes, and California halibut, through retention of large, mature individuals.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore rocky shale and soft bottom habitats to the extent possible, such as the Greyhound Rock SMR and Diablo Canyon SMR).

G4O2: Protect, and replicate to the extent possible, representatives of shale rock and soft bottom intertidal and shallow subtidal habitat.

G5O1: Minimize negative socio-economic impacts to local fisheries by creating a state marine reserve in an area of an existing fishery closure (due to military security considerations). Key indicator: socio-economic studies of effects on commercial fishing fleets and infrastructure.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

Vandenberg Danger Zone 4 State Marine Conservation Area

Rationale: Since all of Danger Zone 4 is a “no-stopping” area designated by the Department of Defense, all vessel-based fishing methods must entail that the vessel be in motion. Since only trolling and crabbing are possible, making this area a de-facto reserve for everything but salmon and crab, it is a logical area to create an MPA in an area that has enjoyed minimal fishing impacts. In addition, negative socio-economic impacts are minimized.

Regulations: Commercial and recreational salmon fishing and crabbing allowed.

Area: This SMCA is approximately 8.9 statute miles (7.75 nautical) alongshore outside of the Vandenberg SMR, and is approximately 14.7 square nautical miles in area.

Habitats: This area encompasses mainly sandy bottoms, but is interlaced with some large rocky outcroppings and piles. The deepwater Arguello Canyon is nearby, and this area is a dynamic interface between the southern California Bight bioregion and the Oregonian bioregion.

Species: CA Halibut, Greenling, Black, Blue rockfish, Red & black abalone, black, blue, brown, copper, olive, vermilion rockfish, lingcod, cabezon, Greenling, Black, Blue, Copper, Olive, Canary, Brown (Bolina), Vermilion, Gopher rockfish, Cabezon, Lingcod, Black abalone, White sea bass, Flounder, Sanddabs, Surfperch, Salmon, Scorpionfish, Rock crab, Lobster, Squid, Sardines, Anchovy, Sea lions, Sea otters, Elephant seals, Snowy Plover

Boundaries: The boundary of the Vandenberg SMCA is the area that encompasses Danger Zone 4 in its entirety, excluding the area encompassed by the Vandenberg SMR within. It is encompassed by the following points: NE 34° 41.75'N, 120° 38.50'W; NW 34° 41.75'N, 120° 40.25'W; W 34° 35.10'N, 120° 42.85'W; SW 34° 34.60N, 120° 42.20'W; SE 34° 34.60'N, 120° 40.25'W.

Goals:

G1O1: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats by only allowing offshore salmon and crab take. Key indicator: assessment of effects of crab and salmon take on overall ecosystem integrity.

G1O2: Protect areas with shale and soft bottom habitat types in depths of 0 to 40 fathoms (240 ft.), in close proximity to each other.

G1O3: Protect natural size and age structure and genetic diversity of populations in representative habitats by protecting all benthic species except crab. Key indicator: stock assessment of benthic species.

G1O4: Protect natural trophic structure and food webs in representative habitats by protecting all benthic species except crab.

G2O1: Help protect and rebuild populations of bocaccio and canary rockfish through protection of their juvenile and/or adult stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessment of key species.

G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as brown and vermilion rockfishes, and California halibut, through retention of large, mature individuals.

G2O3: Protect most soft and hard bottom invertebrate species found within this MPA, and the habitats on which they depend, while allowing the harvest of salmon, Dungeness crab, and Rock crab, through the use of state marine conservation areas.

G3O2: To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in nearshore rocky shale and soft bottom habitats to the extent possible, such as the Greyhound Rock SMCA and Diablo Canyon SMCA).

G3O4: Protect or enhance recreational diving experience by ensuring natural size and age structure of most marine populations found within the area. Key indicator: recreational use patterns.

G4O2: Protect, and replicate to the extent possible, representatives of shale rock and soft bottom habitat.

G5O1: Minimize negative socio-economic impacts to local fisheries by creating a state marine conservation in an area of already restricted fishing (due to military security considerations). Key indicator: socio-economic studies of effects on commercial fishing fleets and infrastructure.

G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.

CALIFORNIA MARINE LIFE PROTECTION ACT INITIATIVE
PROPONENTS' SUMMARY MATRIX OF INDIVIDUAL MPAs IN PACKAGE 1
January 16, 2006

MPA NAME	Regulations	Regional Goals/ Objectives and Design Criteria	MPA-Specific Objectives	Species Likely to Benefit
Año Nuevo State Marine Reserve	No commercial or recreational fishing permitted, including no take of invertebrates.	G1O1, G1O2, G1O3, G1O4, G3O1, G3O2, G3O3. G3O4, G5O1, G5O2	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal habitats, including surfgrass beds. **G1O2:** Protect areas with diverse habitat types in close proximity to each other such as nearshore rockfish and black and red abalone. **G1O3**: Protect natural size and age structure and genetic diversity of populations in rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal habitats, including surfgrass beds. **G1O4**: Protect natural trophic structure and food webs in rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal habitats, including surfgrass beds. **G2O2**: Protect larval sources and enhance reproductive capacity of rocky and soft bottom intertidal and shallow rocky and soft bottom subtidal species most likely to benefit from MPAs, such as black and red abalone, littleneck clams, and mussels, through retention of large, mature individuals. **G3O1**: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as viewing of elephant seal populations. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA designations, habitats, here intertidal, or control areas. **G3O3**: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal MPAs that link with classroom science curricula, and identify participants. **G3O4**: Protect or enhance recreational viewing experience by ensuring natural size and age structure of marine populations in rocky and soft bottom intertidal areas,	Red & black abalone, limpets, red & purple sea urchin, brown rock crab, kelp rockfish, black & yellow rockfish, rubberlip surfperch, littleneck clams, mussels, rock scallops, sea stars, turban snails, worms, monkeyface prickleback and algal species. Also found: sea lions, sea otters, elephant seals, herring gulls. California grunion, night smelt , surf smelt, barred surfperch, Pismo clam, sand crab, ghost shrimp, mud shrimp, moon snail, worms

			including surfgrass beds. **G5O1**: Minimize negative socio-economic impacts and optimize positive socio-economic impacts for all users, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines. **G5O2**: For all MPAs in the region, develop objectives, a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation, and ensure that each MPA objective is linked to one or more regional objectives.	
Greyhound Rock State Marine Conservation Area	SMCA prohibits the take of finfish and invertebrates EXCEPT for recreational and commercial fishing for salmon, coastal pelagic species (including squid) and Dungeness crab. Recreational shore fishing regulations would remain unchanged in the SMCA. Fishing regulations	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2. G2O3. G3O1, G3O2, G3O4, G4O1, G4O2, G5O1, G502, G503	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats by protecting nearshore rockfish. **G1O2**: Protect kelp beds and areas with shale and soft bottom habitat types, in depths of 0 to 180 ft (0-55 m), including surfgrass beds, in close proximity to each other. **G1O3**: Protect natural size and age structure and genetic diversity of finfish populations in representative habitats. **G104**: Protect natural trophic structure and food webs in the internal SMR by providing a buffer that helps prevent rockfish from being caught outside of the SMR. **G105**: Protect ecosystem structure, function, integrity and ecological processes by facilitating recovery of rockfish populations both inside the SMCA and inside the SMR. **G2O1**: Help protect and rebuild populations of the subset of NFMP species that exist. **G2O2**: Protect larval sources and enhance reproductive capacity of species associated with shale and soft bottom, and which are most likely to benefit from MPAs by providing safe spawning habitat for migratory species such as California habitat and by retaining the rockfish species listed in the species list above. **G2O3**: Protect species such as nearshore rockfishes and the habitats on which they depend, while allowing the harvest of salmon, coastal pelagic species (including squid), and Dungeness crab through the use of state marine conservation areas.	Include but not limited to Nereocystis, Black Abalone, most of the 19 nearshore species (excluding scorpionfish, sheephead, treefish), lingcod, vermilion rockfish, surfperch, jacksmelt, squid, anchovy, and sardine.

	within Scott and Waddell creeks shall not be affected by this MPA.		**G301**: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. This area includes public access at Scotts Creek and Waddell Creek for diving and Kayaking. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate MPAs in nearshore rocky and soft bottom habitat. Examples of this include Greyhound Rock SMR, Point Lobos, etc. **G3O4**: Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of groundfish populations in this MPA complex. **G4O1**: Include within MPAs the following habitat types: pinnacles. Mapped pinnacle exists at approx 37 deg 5.75 min, 122 deg 18.9 min. **G4O2**: Protect representative rocky and soft bottom habitat types, including surfgrass beds, rocky reefs, pinnacles, across a depth range of 0 to 180 ft (0-55 m). Multiple instances of shallower nearshore rockfish habitat are replicated within both the SMCA and the SMR. **G5O1**: For the region north of Moss Landing, this complex represents the best balance of protection versus limiting negative socioeconomic impacts. See discussion in rationale above. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation. **G5O3**: This MPA complex exceeds the SAT guidelines in terms of size, regional habitat representation and replication. Spacing to the next nearshore MPA of comparable protection at Pt Lobos is approximately 36 miles. As this MPA complex is much larger (in terms of alongshore extent) than the minimum size guidelines, the spacing is easily within the minimum spacing guideline.	
Greyhound Rock State Marine Reserve	No take	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1,	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats by protecting both rockfish and coastal pelagics. **G1O2**: Protect kelp beds and areas with shale and soft bottom habitat types, in depths of 0 to 180 ft (0-55 m), including surfgrass beds, in close proximity to each	Include but not limited to Nereocystis, Black Abalone, most of the 19 nearshore

		G2O2, G3O1, G3O2, G3O4, G4O2, G501, G502, G503	other. **G1O3**: Protect natural size and age structure and genetic diversity of finfish populations in representative habitats. **G104**: Protect natural trophic structure and food webs. **G105**: Protect ecosystem structure, function, integrity and ecological processes by facilitating recovery of rockfish populations both inside the SMCA and inside the SMR. **G2O1**: Help protect and rebuild populations of the subset of NFMP species that exist. **G2O2**: Protect larval sources and enhance reproductive capacity of species associated with shale and soft bottom, and which are most likely to benefit from MPAs by providing safe spawning habitat for migratory species such as California habitat and by retaining the rockfish species listed in the species list above. **G301**: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. This area includes public access at Scotts Creek and Waddell Creek for diving and Kayaking. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate MPAs in nearshore rocky and soft bottom habitat. Examples of this include Greyhound Rock SMCA, Point Lobos, etc. **G3O4**: Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of groundfish populations in this MPA complex. **G4O2**: Protect representative rocky and soft bottom habitat types, including surfgrass beds, rocky reefs, pinnacles, across a depth range of 0 to 180 ft (0-55 m). Multiple instances of shallower nearshore rockfish habitat are replicated within both the SMCA and the SMR. **G5O1**: For the region north of Moss Landing, this complex represents the best balance of protection versus limiting negative socioeconomic impacts. See discussion in rationale above.	species (excluding scorpionfish, sheephead, treefish), lingcod, vermilion rockfish, surfperch, jacksmelt, squid, anchovy, and sardine.

			G5O2: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation. **G5O3**: This MPA complex exceeds the SAT guidelines in terms of size, regional habitat representation and replication. Spacing to the next nearshore MPA of comparable protection at Pt Lobos is approximately 36 miles. As this MPA complex is much larger (in terms of alongshore extent) than the minimum size guidelines, the spacing is easily within the minimum spacing guideline.	
Sand Hill Bluff Intertidal State Marine Reserve	No Take.	G1O1, G1O3, G1O4, G1O5, G2O1, G2O2, G3O1, G3O2, G3O3, G3O4, G402, G5O2	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom intertidal habitats, including surfgrass beds. **G1O3**: Protect natural size and age structure and genetic diversity of populations in rocky and soft bottom intertidal habitats, including surfgrass beds. **G1O4**: Protect natural trophic structure and food webs in rocky and soft bottom intertidal habitats, including surfgrass beds. **G1O5**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal communities from disturbances both natural and human induced. **G2O1**: Help protect or rebuild populations of rare, threatened, endangered, depleted, or over fished species, including black abalone and (very) near shore rockfish, and the habitats and ecosystem functions upon which they rely. **G2O2**: Protect larval sources and enhance reproductive capacity of rocky and soft bottom intertidal species most likely to benefit from MPAs, such as mussels, limpets, and sea stars, through retention of large, mature individuals. **G3O1**: Ensure some MPAs are close to research and education institutions, such as University of California Santa Cruz and Long Marine Laboratory, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as exploration of intertidal areas. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA intertidal habitats in other state marine reserves within the central coast region.	Black abalone, brown rock crab, limpets, little neck clams, mussels, purple urchin, red rock crab, red urchin, sea stars, turban snails, worms, giant kelp and other intertidal algae.

			(see Ano Nuevo State Marine Reserve). **G3O3**: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal MPAs that link with classroom science curricula, and identify participants. **G3O4**: Protect or enhance recreational viewing experience by ensuring natural size and age structure of marine populations in rocky and soft bottom intertidal areas, including surfgrass beds. **G4O2**: Protect, and replicate to the extent possible, representatives of rocky and soft bottom intertidal habitats. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Elkhorn Slough State Marine Reserve	No Take.	**G1O1, G1O3,** G1O4, G1O5, G2O1, G2O2, G3O1, G3O2, G3O3, G3O4, G4O1, G4O2, G5O1, G5O2	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds. **G1O3**: Protect natural size and age structure and genetic diversity of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds. **G1O4**: Protect natural trophic structure and food webs in coastal marsh, tidal flats, and estuarine habitats. **G1O5**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural coastal marsh, tidal flats, and estuarine communities from disturbances both natural and human induced. **G2O1**: Help protect or rebuild populations of rare, threatened, endangered, depleted, or over-fished species, where identified, and the nursery grounds, habitats and ecosystem functions upon which they rely. (I question whether this objective applies to this MPA. What species did you have in mind?) **G2O2**: Protect larval sources and enhance reproductive capacity of coastal marsh, tidal flats, and estuarine species most likely to benefit from MPAs, such as clams, worms, ghost shrimp, and mud shrimp, through retention of large, mature individuals. **G3O1**: Ensure some MPAs are close to research and education institutions, such	Crabs, ghost shrimp, mud shrimp, clams, bay mussels, worms, rays, California halibut, English sole, leopard shark, various perch, starry flounder, striped bass.

			as Moss Landing Marine Laboratories, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as kayaking. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate estuarine MPA designations, including Moro Cojo Slough and Morro Bay, to the extent possible. **G3O3**: Develop collaborative scientific monitoring and research projects evaluating estuarine MPAs that link with classroom science curricula, and identify participants. **G3O4**: Protect or enhance non-consumptive recreational experience by ensuring natural size and age structure of marine populations. **G4O1**: Include within MPAs the following habitat types: estuaries. **G4O2**: Protect, and replicate to the extent possible, representatives of estuarine habitats. **G5O1**: Little or no negative socio-economic impacts and optimize positive socio-economic impacts for all users, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines. (This needs to be confirmed.) **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Moro Cojo Estuary State Marine Reserve	No Take.	G1O1, G1O3, G1O4, G1O5, G2O1, G2O2, G3O1, G3O2, G3O3, G3O4, G4O1, G4O2,	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds. **G1O3**: Protect natural size and age structure and genetic diversity of populations in coastal marsh, tidal flats, and estuarine habitats including eel grass beds. **G1O4**: Protect natural trophic structure and food webs in coastal marsh, tidal flats, and estuarine habitats. **G1O5**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural coastal marsh, tidal flats, and estuarine communities from disturbances both natural and human induced.	Crabs, ghost shrimp, mud shrimp, clams, bay mussels, worms, rays, California halibut, English sole, leopard shark, various perch, starry flounder, striped bass.

		G5O1, G5O2	**G2O1**: Help protect or rebuild populations of rare, threatened, endangered, depleted, or over-fished species, where identified, and the nursery grounds, habitats and ecosystem functions upon which they rely. (I question whether this objective applies to this MPA. What species did you have in mind?) **G2O2**: Protect larval sources and enhance reproductive capacity of coastal marsh, tidal flats, and estuarine species most likely to benefit from MPAs, such as clams, worms, ghost shrimp, and mud shrimp, through retention of large, mature individuals. **G3O1**: Ensure some MPAs are close to research and education institutions, such as Moss Landing Marine Laboratories, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as kayaking. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate estuarine MPA designations, including Moro Cojo Slough and Morro Bay, to the extent possible. **G3O3**: Develop collaborative scientific monitoring and research projects evaluating estuarine MPAs that link with classroom science curricula, and identify participants. **G3O4**: Protect or enhance non-consumptive recreational experience by ensuring natural size and age structure of marine populations. **G4O1**: Include within MPAs the following habitat types: estuaries. **G4O2**: Protect, and replicate to the extent possible, representatives of estuarine habitats. **G5O1**: Little or no negative socio-economic impacts and optimize positive socio-economic impacts for all users, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Monterey Canyon No-Trawl	No trawling.	G1O2, G2O1, G2O3,	**G1O2**: Protect the varied types of habitats within submarine canyons, in depths of 300 to 1800 ft (90-550 m), in close proximity to each other.	Rockfish species include: aurora, bank, black,

State Marine Conservation Area		G3O1, G302, G303, G401, G402, G501, G502	**G2O1**: Help protect and rebuild populations of bocaccio, cowcod, canary, darkblotched, widow, and yelloweye rockfish and the habitats and ecosystem functions upon which they rely. **G2O3**: Protect species such as slope rockfishes, thornyheads, Dover sole, and sablefish, and lingcod and the habitats on which they depend from the impacts of trawl fishing, while allowing the harvest of species using other gear types through the use of state marine conservation areas. **G3O1**: Ensure some MPAs are close to research and education institutions, such as Monterey Bay Aquarium Research Institute and Moss Landing Marine Laboratories, and are accessible for educational and study opportunities. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA submarine canyon habitats through the implementation of a relatively large state marine conservation area. **G3O3**: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula and local research institution programs, and identify participants. **G4O1**: Include within MPAs the following habitat type: heads of submarine canyons. **G4O2**: Protect representative submarine canyon habitat types, across a depth range of 300 to 1800 ft (90-550 m). **G5O1**: Minimize negative socio-economic impacts to non-trawl fisheries within the submarine canyon portion of Monterey Bay while providing significant protection to benthic submarine canyon habitats through the prohibition of trawling. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan the monitoring protocols, and a strategy for MPA evaluation.	blackgill, blue, boccacio, canary, chilipepper, cowcod, darkblotched, rosy, vermilion, widow, yellow eye, and yellowtail. Other species include lingcod, sablefish, sanddab, sole, squid, sardine, and anchovy.
Monterey Submarine Canyon No Bottom	No bottom contact or extraction of benthic species.	G1O1, G1O2, G1O3, G1O4, G1O5,	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in submarine canyon habitats. **G1O2**: Protect the varied types of habitats within submarine canyons, in depths of	Rockfish species include: aurora, bank, black, blackgill, blue, boccacio,

Contact State Marine Conservation Area	Fishing for only salmon, highly migratory species and coastal pelagic species (including squid) is allowed. Because this water is so deep, this is a high value SMCA, with conservation value very close to an SMR.	G2O1, G2O3, G3O1, G3O2, G3O3, G4O1, G4O2, G5O1, G5O2	600 to 3900 ft (365-1180 m), in close proximity to each other. **G1O3**: Protect natural size and age structure and genetic diversity of populations in submarine canyon habitats. **G1O4**: Creation of this benthic reserve will allow verification that benthic trophic structure and food webs are protected. **G105**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of submarine canyon communities from disturbances both natural and human induced. **G2O1**: Help protect and rebuild populations of cowcod, darkblotched, canary, and yelloweye rockfish and the habitats and ecosystem functions upon which they rely. **G2O3**: Protect species such as slope rockfishes, thornyheads, Dover sole, and sablefish, and the habitats on which they depend, while allowing the harvest of salmon, highly migratory species, and coastal pelagic species through the use of state marine conservation areas. **G3O1**: Ensure some MPAs are close to research and education institutions, such as Monterey Bay Aquarium Research Institute and Moss Landing Marine Laboratories, and are accessible for educational and study opportunities. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA submarine canyon habitats through the implementation of a relatively large state marine conservation area. **G3O3**: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula and local research institution programs, and identify participants. **G4O1**: Include within MPAs the following habitat types: heads of submarine canyons including finger canyon heads. **G4O2**: Protect representative submarine canyon habitat types, across a depth range of 600 to 3900 ft (365-1180 m). **G5O1**: Minimize negative socio-economic impacts to salmon, coastal pelagic species, and highly migratory species fisheries within the submarine canyon portion of Monterey Bay while providing significant protection to benthic submarine canyon	canary, chilipepper, cowcod, darkblotched, rosy, vermilion, widow, yellow eye, and yellowtail. Other species include lingcod, sablefish, sanddab, sole, squid, sardine, and anchovy.

			habitats. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Ed Ricketts State Marine Park	SMP prohibits all spearfishing and kelp harvesting, but allows for recreational skiff and shore angling, and scientific monitoring. We have negotiated with the City of Monterey to support limiting fishing from the breakwater to the area east of the gate, thereby reducing conflicts between fishermen and novice divers in the area closest to the beach. This	G1O3, G2O3, G3O1, G3O2, G4O2, G502	**G1O3**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats especially invertebrates. **G2O3**: Protect nearshore rocky and soft bottom invertebrate species and the habitats on which they depend while allowing the harvest of finfish species through the use of state marine conservation areas. Provide some protection to finfish species through the prohibition of commercial fishing for them. **G3O1**: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving in the area from the Monterey harbor breakwater to Hopkins State Marine Reserve, and are accessible for recreational, educational, and study opportunities. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in nearshore and kelp bed habitats (including areas open to fishing) to the extent possible (see Pacific Grove State Marine Conservation Area). **G4O2**: Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal rocky and soft bottom habitats, including kelp and surfgrass beds. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	Black and red abalone; black, black-and-yellow, blue, copper, gopher, kelp, olive, and vermillion rockfish; lingcod; cabezon; halibut; sea otters; California sea lions; harbor seals

	would require Fish&Game Commission approval.			
Ed Ricketts State Marine Conservation Area	No spearfishing except halibut and highly migratory species; no commercial fishing; no invertebrate take, including no scientific or educational institutional collecting (except for MPA monitoring purposes). Kelp harvesting by hand and shore and skiff recreational angling would be allowed.	G1O3, G203, G301, G302, G402	**G1O3**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats especially invertebrates. **G2O3**: Protect nearshore rocky and soft bottom invertebrate species and the habitats on which they depend while allowing the harvest of finfish species through the use of state marine conservation areas. Provide some protection to finfish species through the prohibition of commercial fishing for them. **G3O1**: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving in the area from the Monterey harbor breakwater to Hopkins State Marine Reserve, and are accessible for recreational, educational, and study opportunities. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in nearshore and kelp bed habitats (including areas open to fishing) to the extent possible (see Pacific Grove State Marine Conservation Area). **G4O2**: Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal rocky and soft bottom habitats, including kelp and surfgrass beds.	Black, blue, copper, olive rockfish; black & red abalone; lingcod; cabezon, wolf eel; kelp greenling; calico bass; CA halibut, sheephead; opaleye, rubberlip perch, pile perch, white sea bass
Hopkins State Marine Reserve	No take allowed .	G1O1, G1O2, G1O3, G1O4,	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m).	Black & red abalone; black, black-and-yellow, blue,

		G1O5, G2O1, G2O2, G3O1, G3O2, G3O3, G3O4, G5O2	**G1O2**: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m), in close proximity to each other. **G1O3**: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m). **G104**: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds, in depths of 0 to 60 ft (0-18 m). **G1O5**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal and shallow subtidal communities from disturbances both natural and human induced. **G2O1**: Help protect and rebuild populations of bocaccio and canary rockfish through protection of their juvenile stages and the habitats and ecosystem functions upon which they rely. **G2O2**: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as olive, blue, and kelp rockfishes, and California halibut, through retention of large, mature individuals. **G3O1**: Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving and kayaking within Hopkins State Marine Reserve, and are accessible for recreational, educational, and study opportunities. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and kelp bed habitats to the extent possible (see Pt. Lobos State Marine Reserve) **G3O3**: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with university science curricula at Hopkins Marine Station, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants. **G3O4**: Protect or enhance recreational experience by ensuring natural size and	copper, gopher, kelp, olive, vermilion rockfish; lingcod, cabezon; sea otters

			age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Pacific Grove Intertidal State Marine Reserve	No Take Allowed. Would allow walk-in spearfisherme n to cross the tidewater to return to shore with any fish caught outside the intertidal waters.	G1O1, G1O3, G1O4, G1O5, G202, G3O1, G3O2, G3O3, G3O4, G4O2, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom intertidal habitats, including surfgrass beds. **G1O3**: Protect natural size and age structure and genetic diversity of populations in rocky and soft bottom intertidal habitats, including surfgrass beds. **G1O4:** Protect natural trophic structure and food webs in rocky and soft bottom intertidal habitats, including surfgrass beds. **G1O5**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal communities from disturbances both natural and human induced. **G2O2**: Protect larval sources and enhance reproductive capacity of rocky and soft bottom intertidal species most likely to benefit from MPAs, such as mussels, limpets, and sea stars, through retention of large, mature individuals. **G3O1:** Ensure some MPAs are close to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as exploration of intertidal areas. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate appropriate MPA intertidal habitats through the establishment of this and other reserves which include intertidal habitat within the central coast region (see Hopkins and Pt. Lobos State Marine Reserves). **G3O3:** Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal MPAs that link with classroom science curricula, and identify participants. **G3O4**: Protect or enhance recreational viewing experience by ensuring natural	Black abalone; brown rock crab; limpets; little neck clams; mussels; purple urchins; red rock crab; sea stars; turban snails; worms; kelp; algal species

			size and age structure of marine populations in rocky and soft bottom intertidal areas, including surfgrass beds. **G4O2:** Protect, and replicate to the extent possible, representatives of rocky and soft bottom intertidal habitats. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Pacific Grove-Monterey State Marine Conservation Area	SMCA prohibits commercial take of finfish and benthic invertebrates EXCEPT Dungeness crab, salmon, coastal pelagic species (including squid), herring and kelp. Recreational fishing is allowed for finfish, Dungeness crab, and squid. Recreational take of other crustaceans and mollusks	G1O2, G1O3, G2O1, G2O2, G2O3, G3O1, G302, G303, G401, G402, G502	**G1O2:** Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds, in depths of 0 to 240 ft (0-70 m), in close proximity to each other. **G1O3:** Protect natural size and age structure and genetic diversity of populations in rocky and soft bottom intertidal habitats, including surfgrass beds **G2O1:** Help protect and rebuild populations of bocaccio, widow, canary, and yelloweye rockfish through protection of their juvenile and/or adult stages due to the presence of a portion of the Rockfish Conservation Area within this MPA. **G2O2:** Protect larval sources and enhance reproductive capacity of crustacean (except Dungeness crab) and mollusk (except squid) species most likely to benefit from MPAs which are associated with shallow granitic and soft bottom habitats, including kelp beds, such as rock crabs and turban snails, through retention of large, mature individuals. **G2O3**: Protect species such as nearshore rockfishes and California halibut, and the habitats on which they depend, while allowing the harvest of salmon, coastal pelagic species (including squid), and Dungeness crab through the use of state marine conservation areas. Provide some protection to finfish species other than salmon and coastal pelagic species through the prohibition of commercial fishing for them. **G301:** Ensure some MPAs are close to population centers such as the Monterey Peninsula and to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as scuba diving and kayaking. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate State	Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches.

	are prohibited.		Marine Conservation Area designations where recreational fishing is allowed, to the extent possible (see Carmel Bay State Marine Conservation Area). **G3O3:** Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal and shallow subtidal MPAs that link with classroom science curricula, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants. **G4O1**: Include within MPAs the following habitat type: pinnacles. **G4O2**: Protect, and replicate to the extent possible, representatives of shallow subtidal granitic and soft bottom marine habitats within the depth range of 0 to 240 ft (0-70 m). **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Cypress Pinnacles State Marine Reserve	No Take Allowed.	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O1, G3O2, G3O3, G3O4, G4O1, G402, G5O1, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including pinnacles, in depths of 0 to 200 ft (0-60 m). **G1O2**: Protect areas with granitic and soft bottom habitat types, including pinnacles, in depths of 0 to 200 ft (0-60 m), in close proximity to each other. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including pinnacles, in depths of 0 to 200 ft (0-60 m). **G104:** Protect natural trophic structure and food webs in granitic and soft bottom habitats, including pinnacles, in depths of 0 to 200 ft (0-60 m). **G1O5**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including pinnacles, from disturbances both natural and human induced. **G2O1:** Help protect and rebuild populations of bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely.	blue, black, olive, vermillion, kelp, black & yellow, gopher, & china rockfish, sheephead, cabezon, pile perch, rubberlip perch

			G2O2: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. **G3O1:** Ensure some MPAs are close to population centers, such as the Monterey Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible (see Pt. Lobos State Marine Reserve) **G3O3:** Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants. **G3O4**: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. **G4O1**: Include within MPAs the following habitat type: pinnacles. **G4O2:** Protect, and replicate to the extent possible, representatives of shallow subtidal granitic, including pinnacles, and soft bottom marine habitats within the depth range of 0 to 200 ft (0-60 m). **G5O1:** Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a well-known and popular dive area. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Carmel Bay State	SMCA prohibits take	G1O2, G2O1,	**G1O2**: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds, pinnacles and submarine canyon head habitat, in depths of 0 to 200	blue, black vermilion,

Marine Conservation Area	of all marine life EXCEPT for recreational finfish and commercial squid and kelp harvest.	G2O3, G3O1, G3O2, G3O3, G4O1, G4O2, G5O2	ft (0-60 m), in close proximity to each other. **G2O1**: Help protect and rebuild populations of bocaccio, widow, canary, and yelloweye rockfish through protection of their juvenile and/or adult stages due to the presence of a portion of the Rockfish Conservation Area within this MPA. **G2O3**: Protect invertebrate species except squid and the habitats on which they depend, while allowing the recreational harvest of finfish and the commercial harvest of kelp and squid through the use of state marine conservation areas. Provide some protection to finfish species through the prohibition of commercial fishing for them. **G301**: Ensure some MPAs are close to population centers such as the Monterey Peninsula and to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities. Include areas of traditional non-consumptive recreational use, such as scuba diving and kayaking. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate State Marine Conservation Area designations where recreational fishing is allowed, to the extent possible (see Pacific Grove State Marine Conservation Area). **G3O3**: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom intertidal and shallow subtidal MPAs that link with classroom science curricula, volunteer dive programs such as REEF fish counts, and fishermen of all ages, and identify participants. **G4O1**: Include within MPAs the following habitat types: pinnacles, heads of submarine canyons. **G4O2:** Protect, and replicate to the extent possible, representatives of shallow subtidal granitic (including pinnacles) and soft bottom marine habitats, and submarine canyon heads, within the depth range of 0 to 200 ft (0-60 m). **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	copper, gopher, olive, black & yellow, grass, & kelp rockfish, kelp greenling, CA halibut, kelp bass, opaleye, rubberlip perch, black perch, pile perch, leopard shark, sheephead, lingcod, cabezon, spiny lobster, wolf eel
Pt. Lobos State	SMCA prohibits the	G1O1, G1O2,	**G1O1**: Protect areas of high species diversity and maintain species diversity and	yelloweye, brown, bocaccio,

Marine Conservation Area	take of finfish and invertebrates EXCEPT for recreational and commercial fishing for salmon, and commercial fishing for spot prawns. This would be a high value SMCA.	G1O3, G2O1, G2O3, G3O1, G3O2, G3O3, G3O4, G4O1, G4O2, G5O2	abundance, consistent with natural fluctuations, of populations in representative habitats. SAT Valuation: Two Stars. **G1O2**: Protect areas with granitic and soft bottom habitat types, including pinnacles and submarine canyon habitat, in depths of 250 to 1800 ft (75-550 m), in close proximity to each other. **G1O3**: Protect natural size and age structure and genetic diversity of populations in representative habitats. SAT Valuation: Two Stars. **G2O1**: Help protect and rebuild populations of bocaccio, cowcod, darkblotched, widow, canary, and yelloweye rockfish and the habitats and ecosystem functions upon which they rely. **G2O3**: Protect most fish and invertebrate species and the habitats on which they depend, while allowing the recreational and commercial harvest of salmon and the commercial harvest of spot prawn through the use of state marine conservation areas. **G301**: Ensure some MPAs are close to population centers such as the Monterey Peninsula and to research and education institutions, such as Hopkins Marine Station and California State University, Monterrey Bay, and are accessible for recreational, educational, and study opportunities. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate State Marine Conservation Area designations in deeper water where spot prawn and salmon fishing are allowed, to the extent possible (see Monterey Canyon No-Trawl State Marine Conservation Area). **G3O3**: Develop collaborative scientific monitoring and research projects evaluating rocky and soft bottom MPAs in deeper water and submarine canyon habitats that link with classroom science curricula and fishermen of all ages, and identify participants. **G3O4**: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations. SAT Valuation: Two Stars. **G4O1**: Include within MPAs the following habitat types: heads of submarine canyons, and pinnacles.	chilipepper, yellowtail, blue, black, vermilion, copper & olive rockfish, CA halibut, sheephead, lingcod, cabezon, wolf eel, chinook salmon, blue shark

			G4O2: Protect, and replicate to the extent possible, representatives of submarine canyon and deeper pinnacle habitats. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Point Lobos State Marine Reserve	No take allowed. Recommend to CDPR to modestly expand the number of day-use permits for non-consumptive divers, and to increase parking, if possible.	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O1, G2O2, G3O1, G3O2, G3O3, G3O4, G4O1, G5O2	**G1O1**: Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m). **G1O2**: Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m), in close proximity to each other. **G1O3**: Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m). **G104**: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 240 ft (0-70 m). **G1O5**: Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp and surfgrass beds and pinnacles, from disturbances both natural and human induced. **G2O1**: Help protect and rebuild populations of bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. **G2O2**: Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. **G3O1**: Ensure some MPAs are close to population centers, such as the Monterey	Black, blue, copper, olive, canary rockfish; black & red abalone; lingcod, bocaccio rockfish; vermilion, black-and-yellow, gopher, kelp, china rockfish; cabezon, kelp greenling, blue, black, vermiion, copper, gopher, olive, black & yellow grass, & kelp rockfish, kelp greenling, CA halibut, kelp bass, rubberlip perch, black perch, pile perch, leopard shark, sheephead, lingcod, cabezon, wolf

			Peninsula, and research and education institutions, such as Hopkins Marine station and California State University, Monterey Bay. Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities. **G3O2**: To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible (see Cypress Pinnacles State Marine Reserve) **G3O3**: Develop collaborative scientific monitoring and research projects evaluating MPAs that link with classroom science curricula and volunteer dive programs such as REEF fish counts, and identify participants. **G3O4**: Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. **G4O1**: Include within MPAs the following habitat types: pinnacles, heads of submarine canyons. **G5O2**: For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	eel, monkeyface eel, black, red, flat abalone
Julia Pfeiffer Burns State Marine Reserve	No commercial or recreational fishing permitted, including no take of invertebrates	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O2, G3O4, G4O1, G4O2, G5O1, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in high-relief granitic and soft bottom habitats, including kelp and surfgrass beds, pinnacles, and submarine canyon heads, in depths of 0 to 300 feet. Key indicator: high species diversity. **G1O2:** Protect areas with granitic and soft bottom habitat types, including kelp, submarine canyons, deep water, surfgrass beds and pinnacles, in close proximity to each other and in depths of 0 to 300 feet. Key indicator: habitat mapping and assessment. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp, submarine canyons, deep water, surfgrass beds and pinnacles, in depths of 0 to 300 feet. Key indicator: stock assessments to determine fauna size and age.	Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches, half banded , blue,

			G104: Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp, submarine canyons, deep water, surfgrass beds and pinnacles, in depths of 0 to 300 feet. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal and deep rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: human consumptive effects outside of the reserve and their impact on the reserve; natural impacts on ecosystem function such as pinnipeds. **G2O1:** Help protect and rebuild populations of bocaccio, cowcod, canary, widow, black and red abalone, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow and deep rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, black and red abalone, and California halibut, through retention of large, mature individuals. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible, such as Point Lobos State Marine Reserve, Big Creek State Marine Reserve, and Alder Creek State Marine Reserve. Key indicator: comparative studies. **G3O4:** Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: non-consumptive use patterns. **G4O1:** Include within MPAs the following habitat type: pinnacles and submarine canyon heads. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 300 feet. **G5O1:** Optimize positive socio-economic impacts for non-consumptive scuba	pygmy, olive, gopher, bocaccio, shortbelly, copper & rosy rockfish, speckled & Pacific sanddab, blackeye goby, painted greenling, CA sea otter, chinook salmon, CA halibut, CA sheephead, white sea bass, sardines, anchovy, flounder, rock crab

			divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a potential dive area. Key indicator: non-consumptive use patterns. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Julia Pfeiffer Burns State Marine Conservation Area	Commercial and recreational salmon and spot prawn take only allowed.	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O2, G3O4, G401, G402, G502	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, submarine canyon heads, and pinnacles, in depths of 300 to 1975 ft. Key indicator: high species diversity. **G1O2:** Protect areas with granitic and soft bottom habitat types, including submarine canyon heads and pinnacles, in depths of 300 to 1975 ft., in close proximity to each other. Key indicator: habitat mapping and assessment. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, submarine canyons and pinnacles, in depths of 300 to 1975 ft. Key indicator: stock assessments of cornerstone species. **G104:** Protect natural trophic structure and food webs in granitic and soft bottom habitats, including submarine canyons and pinnacles, in depths of 300 to 1975 ft. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural deep water rocky and soft bottom communities, from disturbances both natural and human induced. Key indicator: comparison to similar habitats in less and/or more affected areas, such as the Monterey Bay submarine canyon. **G2O1:** Help protect and rebuild populations of canary, widow, and yelloweye rockfishes through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments. **G2O2:** Protect larval sources and enhance reproductive capacity of deep rocky and soft bottom species most likely to benefit from MPAs, through retention of large, mature individuals. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state	Blue, Black, Olive, Gopher, Black-and-yellow, Vermilion and Copper rockfishes; Lingcod, Cabezon; bocaccio, shortbelly, copper & rosy rockfish, speckled & Pacific sanddab, blackeye goby, painted greenling, chinook salmon, CA halibut, white sea bass, sardines, anchovy, flounder

			marine reserve areas in deep and rocky and soft bottom habitats to the extent possible, such as Alder Creek SMCA. Key indicator: high species diversity. **G3O4:** Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles and submarine canyons. Key indicator: spillover effects in fished areas. **G4O1:** Include within MPAs the following habitat type: pinnacles, submarine canyon heads. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 300 to 1975 ft. depth range. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Big Creek State Marine Reserve	No commercial or recreational fishing permitted, including no take of invertebrates. The area will retain its current no-entry regulations and exemptions.	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O1, G3O2, G3O4, G4O1, G4O2, G5O1, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-00 m). Key indicator: species diversity. **G1O2:** Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-90 m), in close proximity to each other. Key indicator: habitat mapping and assessment. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-90 m). Key indicator: stock assessment of cornerstone species. **G104:** Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 300 ft (0-90 m). **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: continued monitoring from baseline data already	Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches; Widow, Canary rockfish, Black abalone, half-banded, blue, pygmy, olive, gopher, bocaccio,

			established. **G2O1:** Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. **G3O1:** Ensure some MPAs are close to research and education institutions, such as the Landels-Hill Big Creek Reserve (terrestrial). Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible, such as the Point Lobos State Marine Reserve. **G3O4:** Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: nearby non-consumptive recreational use patterns. **G4O1:** Include within MPAs the following habitat type: pinnacles. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 300 ft (0-90 m) depth range. **G5O1:** Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a potential dive area. Key indicator: recreational use patterns. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation. Key indicator: building on existing baseline data.	shortbelly, copper, rosy, speckled & Pacific sanddab, blackeye goby, painted greenling, CA sea otter, chinook salmon, CA halibut, CA sheephead, white sea bass, sardines, anchovy, flounder, rock crab

Alder Creek State Marine Reserve	No commercial or recreational fishing permitted, including no take of invertebrates .	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O1, G3O2, G3O4, G4O1, G4O2, G5O1, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet. Key indicator: high species diversity. **G1O2:** Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet, in close proximity to each other. Key indicator: habitat mapping and assessment. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet. **G104:** Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 140 feet. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (consumptive, urban, agricultural) versus natural (pinniped impacts, regime shifts) impacts. **G2O1:** Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. Key indicator: stock assessments and spillover of key species. **G3O1:** Ensure some MPAs are close to research and education institutions, such as the Landels-Hill Big Creek Reserve (terrestrial). Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent	CA halibut, sanddabs, Gobys, Cabezon, grass bass, kelp & rock greenling, Gopher cod, black, black & yellow, olive, white belly, vermilion rockfish; lingcod; rubberlip surfperch, leopard shark; wolf eel; monkeyface eel; sea otters, Sea lions, red rock crab, kelp crab, Widow, bocaccio rockfish (deep)

			possible, such as the Point Lobos State Marine Reserve and Big Creek State Marine Reserve. **G3O4:** Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: recreational use patterns. **G4O1:** Include within MPAs the following habitat type: pinnacles. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 140 feet depth range. **G5O1:** Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal marine communities in a potential dive area. Key indicator: recreational use patterns. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Alder Creek State Marine Conservation Area	Commercial and recreational salmon and coastal pelagic take only allowed.	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O2, G3O4, G4O1, G4O2, G5O1, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp, canyon heads, deep water, surfgrass beds, and pinnacles, in depths of 120 to 1300 feet. Key indicator: high species diversity. **G1O2:** Protect areas with granitic and soft bottom habitat types including submarine canyons and deep water, and pinnacles, in depths of 120 to 1300 feet and in close proximity to each other. Key indicator: mapping and habitat assessment. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including submarine canyons, deep water, and pinnacles, in depths of 120 to 1300 feet. Key indicator: stock assessments. **G104:** Protect natural trophic structure and food webs in granitic and soft bottom habitats, including submarine canyons, deep water, and pinnacles, in depths of 120 to 1300 feet. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to	CA halibut, sanddabs, Gobys, Cabezon, grass bass, kelp & rock greenling, Gopher cod, black, black & yellow, olive, white belly, vermilion rockfish; lingcod; rubberlip surfperch, leopard shark; wolf eel; monkeyface eel;

			facilitate recovery of natural rocky and soft bottom communities, including pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (consumptive, urban, agricultural) versus natural (pinniped impacts, regime shifts) impacts. **G2O1:** Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. **G2O2:** Protect larval sources and enhance reproductive capacity of species most likely to benefit from MPAs through retention of large, mature individuals. Key indicator: stock assessments of key species. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in rocky and soft bottom habitats to the extent possible, such as the Julia Pfeiffer Burns State Marine Conservation Area. **G3O4:** Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles. **G4O1:** Include within MPAs the following habitat type: pinnacles, submarine canyon head. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 120 to 1300 feet depth range. **G5O1:** Minimize negative socioeconomic impacts by allowing take of salmon and coastal pelagics, and spot prawns. Key indicator: commercial fish landings and fishing infrastructure health. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	sea otters, Sea lions, red rock crab, kelp crab, Widow, bocaccio rockfish (deep)
Point Piedras Blancas State Marine	No commercial or recreational fishing permitted,	G1O1, G1O2, G1O3, G1O4, G1O5,	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including kelp and surfgrass beds, and pinnacles, in depths of 0 to 60 ft. Key indicator: high species diversity.	Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion and

Reserve	including no take of invertebrates	G2O1, G202, G3O1, G3O2, G3O4, G4O1, G4O2, G5O1, G5O2	**G1O2:** Protect areas with granitic and soft bottom habitat types, including kelp and surfgrass beds and pinnacles, in depths of 0 to 60 ft, in close proximity to each other. Key indicator: mapping and habitat assessment. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 60 ft. **G104:** Protect natural trophic structure and food webs in granitic and soft bottom habitats, including kelp and surfgrass beds and pinnacles, in depths of 0 to 60 ft. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including kelp ands surfgrass beds and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (consumptive, urban, agricultural, tourism) versus natural (pinniped impacts, regime shifts) impacts. **G2O1:** Help protect and rebuild populations of bocaccio, cowcod, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. **G3O1:** Ensure some MPAs are close to research and education institutions, such as the Landels-Hill Big Creek Reserve (terrestrial). Ensure some MPAs include areas of traditional non-consumptive recreational use, such as scuba diving, and are accessible for recreational, educational, and study opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore and rocky and soft bottom habitats to the extent possible, such as the Point Lobos and Big Creek State Marine Reserves. **G3O4:** Protect or enhance recreational experience by ensuring natural size and age structure of marine populations in soft bottom and rocky habitat, including pinnacles, within scuba diving depth range. Key indicator: recreational use patterns.	Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches; Widow, Canary rockfish, Black abalone, half-banded, blue, pygmy, olive, gopher, bocaccio, shortbelly, copper, rosy, speckled & Pacific sanddab, blackeye goby, painted greenling, CA sea otter, chinook salmon, CA halibut, CA sheephead, white sea bass, sardines, anchovy, flounder, rock crab

			G4O1: Include within MPAs the following habitat type: pinnacles. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 60 ft. depth range, such as the Big Creek and Alder Creek SMRs. **G5O1:** Optimize positive socio-economic impacts for non-consumptive scuba divers through the ensuring of natural size and age structure of shallow subtidal and nearshore marine communities in a potential dive area. Key indicator: recreational use patterns. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Cambria State Marine Park	Recreational fishing only allowed, no commercial fishing, however, commercial shore-launched craft are permitted to transit the area.	G2O3, G3O1, G304, G501	**G2O3:** Protect selected species and the habitats on which they depend while allowing the harvest of migratory, highly mobile, or other species where appropriate through the use of a state marine park. Key indicator: recreational consumptive use patterns and fish landing assessment. **G3O1:** Ensure some MPAs are close to population centers (Cambria, Paso Robles, San Luis Obispo) and research and education institutions (K-12, Cuesta College and Cal Poly) and include areas of traditional non-consumptive recreational use and are accessible for recreational, educational, and study opportunities. **G3O4:** Protect or enhance recreational experience by ensuring natural size and age structure of marine populations by prohibiting commercial fishing. Key indicator: recreational consumptive use patterns and fish landing assessment. **G5O1:** Minimize negative socio-economic impacts and optimize positive socio-economic impacts for all users, especially recreational fishing, to the extent possible, and if consistent with the Marine Life Protection Act and its goals and guidelines. Key indicator: assess economic impact on commercial fishing interests.	Blue, Black, Olive, Gopher, Black-and-yellow, Kelp, Vermilion, China and Copper rockfishes; Kelp greenling, Lingcod, Cabezon; Pile, Rubberlip, Striped, Black and Rainbow Surfperches, flounder, CA halibut, white sea bass, surfperch, rock crab, black & red abalone, sea otters

Morro Strand Invertebrate State Marine Conservation Area	No-take of any invertebrates allowed.	G1O3, G105, G203, G301, G402, G501	**G1O3:** Protect natural size and age structure and genetic diversity of invertebrate populations in sand and rocky intertidal habitats, in depths from 0 to 10 fathoms. Key indicator: invertebrate stock assessment and water quality analysis. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of sandy and rocky intertidal and nearshore communities, from disturbances both natural and human induced, such as water quality impacts. Key indicator: encompassing replicate soft bottom habitat for forty miles of coastline in prime Pismo clam habitat, where there currently are no or very few clams. The Morro Beach Sandspit SMR is included as a "control" area that has little or no human use or water quality impacts. The two book-ending conservation areas may have measurable human use water quality impacts. **G2O3:** Protect intertidal and shallow subtidal soft-bottom and rocky intertidal invertebrate species and the habitats on which they depend while allowing the harvest of finfish by hook-and-line through the use of state marine conservation areas. **G3O1:** Ensure some MPAs are close to population centers such as San Luis Obispo, include areas of traditional non-consumptive recreational use, such as beach walking and are accessible for recreational, educational, and study opportunities. **G4O2:** Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal soft bottom and rocky intertidal habitats. **G5O1:** Minimize negative socio-economic impacts to recreational and commercial fin fisheries in shallow soft bottom habitats in the San Luis Obispo area while providing protection for invertebrates.	ca halibut, surfperch, shiner perch, sardine, anchovy, smelt, rock crab, white sea bass, pismo clams, razor clams
Morro Bay Harbor State Marine Conservation Area	Recreational fishing allowed. Commercial oyster farming and bait receiving allowed. No	G203, G301, G302, G303, G401, G502	**G2O3:** Protect species from commercial fishing and the habitats on which they depend while allowing the harvest of migratory, highly mobile, or other species where appropriate by recreational take through the use of a state marine conservation area. Key indicator: recreational consumptive use patterns. **G3O1:** Ensure some MPAs are close to population centers such as Morro Bay, include areas of traditional non-consumptive recreational use, such as sailing and bird watching, and are accessible for recreational, educational, and study	blue, black, olive, kelp, grass, gopher, copper, china, black & yellow rockfish, treefish, vermilion rockfish, lingcod,

	commercial fishing.		opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate shallow soft bottom habitats in SMPs open to recreational finfish fishing only, such as Cambria SMP or the Morro Bay Harbor East SMR. **G3O3:** Develop collaborative scientific monitoring and research projects evaluating MPAs that link with fisheries management information needs, classroom science curricula, volunteer dive programs, and recreational fishermen of all ages. **G4O1:** Include within MPAs the following habitat type: estuaries **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	cabezon, kelp greenling, CA halibut, pile perch, rubberlip perch, striped perch, black perch, blacksmith, sheephead, white sea bass, wolf eel
Morro Bay Harbor East State Marine Reserve	No commercial or recreational fishing permitted, including no take of invertebrates.	G1O1, G1O3, G1O5, G3O1, G3O2, G3O3, G4O1, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in estuarine eelgrass, soft bottom channel, and tidal marsh habitats. Key indicator: species diversity and water quality analysis. **G1O3:** Protect natural size and age structure and genetic diversity of populations in estuarine and eelgrass bed habitats, including soft bottom and marshy areas. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural estuarine and eelgrass bed communities, from disturbances both natural and human induced. Key indicator: assessment of human impacts (urban, agricultural) versus natural (fresh water runoff, sand accretion). **G3O1:** Ensure some MPAs are close to population centers such as Morro Bay, include areas of traditional non-consumptive recreational use, such as sailing and bird watching, and are accessible for recreational, educational, and study opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate shallow soft bottom estuarine habitats in SMRs, such as Elkhorn and Moro-Cojo Estuary SMRs. **G3O3:** Develop collaborative scientific monitoring and research projects evaluating MPAs that link with fisheries management information needs, classroom science curricula, volunteer dive programs, and recreational fishermen of all ages.	Grass rockfish, ca halibut, surfperch, pile perch, sardine, anchovy, smelt, leopard shark, bat ray, steelhead trout, rock crab, olive rockfish; black abalone, lingcod, bocaccio, rubberlip perch

			G4O1: Include within MPAs the following habitat type: estuaries **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Morro Beach Sandspit State Marine Reserve	No commercial or recreational fishing permitted, including take of invertebrates.	G1O3, G1O4, G2O1, G2O2, G3O1, G4O2, G5O1	**G1O3:** Protect natural size and age structure and genetic diversity of populations in soft sandy tidal and intertidal areas in depths from 0 to 60 feet. Key indicator: stock assessment of key species present. **G1O4:** Protect natural trophic structure and food webs in soft sandy tidal and intertidal areas in depths from 0 to 60 feet. **G2O1:** Help protect and rebuild populations of Pismo clams through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow soft bottom species most likely to benefit from MPAs, such as Pismo clams and other tidal invertebrates through retention of large, mature individuals. Key indicator: continued stock assessment of key species. **G3O1:** Ensure some MPAs are close to population centers such as San Luis Obispo, include areas of traditional non-consumptive recreational use, such as beach walking and are accessible for recreational, educational, and study opportunities. **G4O2:** Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal soft bottom habitats. **G5O1:** Minimize negative socio-economic impacts to recreational and commercial fin fisheries in shallow soft bottom habitats in the San Luis Obispo area while providing protection for invertebrates.	ca halibut, surfperch, shiner perch, sardine, anchovy, smelt, rock crab, white sea bass, pismo clams, razor clams
Diablo Canyon State Marine Reserve	No commercial or recreational fishing permitted, including no	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1,	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key assessment: high species diversity. **G1O2:** Protect areas with hard shale and soft bottom habitat types, including giant	black, blue, copper, olive rockfish, bocaccio rockfish, black & red abalone,

	take of invertebrates.	G2O2, G3O1, G3O2, G3O3, G3O4, G4O1, G4O2, G5O1, G5O2	and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet and in close proximity to each other. **G1O3:** Protect natural size and age structure and genetic diversity of populations in hard and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key indicators: continuation of the PG&E Marine Lab's on-going studies of the marine habitat in the area of the power plant; assessment of kelp and surfgrass beds in close proximity to the power plant. **G104:** Protect natural trophic structure and food webs in hard and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities, including giant and bull kelp, surfgrass beds, and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (agricultural, consumptive, power plant) versus natural (pinnipeds, regime shifts). **G2O1:** Help protect and rebuild populations of red and black abalone, bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as red and black abalone, blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. **G3O1:** Ensure some MPAs are close to research and education institutions, such as PG&E Marine Lab, Cuesta College, and Cal Poly San Luis Obispo and may be accessible for educational and study opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore rocky and soft bottom habitats to the extent possible, as in the Big Creek and Alder Creek State Marine Reserves. **G3O3:** Develop collaborative scientific monitoring and research projects evaluating MPAs in the vicinity of a power plant and identify participants such as the PG&E	lingcod, cabezon, sheephead, flounder, CA halibut, white sea bass, surfperch, perch, sardines, anchovy, calico bass, all shallow & nearshore rockfish, sea otters

			Marine Lab. **G3O4:** Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of marine populations in an adjacent state marine reserve. Key indicator: recreational use patterns and fish landing data. **G4O1:** Include within MPAs the following likely habitat type: pinnacles. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 180 ft (0-55 m) depth range. **G5O1:** Minimize negative socio-economic impacts to the fishing community in the Morro Bay/Port San Luis area, to the extent possible, by creating a state marine reserve in an area already closed to all fishing due to national security considerations. Key indicator: socio-economic studies to focus on effects on commercial fishing fleet and its harbor infrastructure. **G5O2:** Develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Diablo Canyon State Marine Conservation Area	Commercial and recreational salmon fishing only allowed.	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O1, G3O2, G3O3, G3O4, G4O1, G4O2, G5O1, G5O2	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key indicator: high species diversity. **G1O2:** Protect areas with granitic and soft bottom habitat types, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet and in close proximity to each other. **G1O3:** Protect natural size and age structure and genetic diversity of populations in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. Key indicator: assessment of kelp and surfgrass beds in close proximity to the power plant. **G104:** Protect natural trophic structure and food webs in granitic and soft bottom habitats, including giant and bull kelp, surfgrass beds, and pinnacles, in depths of 0 to 180 feet. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural shallow subtidal rocky and soft bottom communities,	black, blue, copper, olive rockfish, bocaccio rockfish, black & red abalone, lingcod, cabezon, sheephead, flounder, CA halibut, white sea bass, surfperch, perch, sardines, anchovy, calico bass, all shallow & nearshore rockfish, sea otters

			including giant and bull kelp, surfgrass beds, and pinnacles, from disturbances both natural and human induced. Key indicator: assessment of human impacts (agricultural, consumptive, power plant) versus natural (pinnipeds, regime shifts). **G2O1:** Help protect and rebuild populations of red and black abalone, bocaccio, canary, widow, and yelloweye rockfish through protection of their adult and/or juvenile stages and the habitats and ecosystem functions upon which they rely. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as red and black abalone, blue and vermilion rockfishes, lingcod, cabezon, and California halibut, through retention of large, mature individuals. **G3O1:** Ensure some MPAs are close to research and education institutions, such as PG&E Marine Lab, Cuesta College, and Cal Poly San Luis Obispo and may be accessible for educational and study opportunities. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore rocky and soft bottom habitats to the extent possible. (See Big Creek and Alder Creek State Marine Reserves.) **G3O3:** Develop collaborative scientific monitoring and research projects evaluating MPAs in the vicinity of a power plant and identify participants such as the PG&E Marine Lab. **G3O4:** Protect or enhance recreational fishing experience in fished areas by ensuring natural size and age structure of marine populations in an adjacent state marine reserve. Key indicator: recreational use patterns and landing data collection. **G4O1:** Include within MPAs the following likely habitat type: pinnacles. **G4O2:** Protect, and replicate to the extent possible, representatives of granitic and soft bottom habitats in the 0 to 180 ft (0-55 m) depth range. **G5O1:** Minimize negative socio-economic impacts to the fishing community in the Morro Bay/Port San Luis area, to the extent possible, by creating a state marine reserve in an area already closed to all fishing due to national security considerations. Key indicator: socio-economic studies to focus on effects on commercial fishing fleet and its harbor infrastructure. **G5O2:** Develop a long-term monitoring plan that includes standardized biological	

			and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	
Pismo-Oceano Invertebrate State Marine Conservation Area	No-take of any invertebrates allowed.	G1O1, G1O3, G2O3, G3O1, G4O2, G5O1	**G1O1:** Within intertidal zone and out to 10 fathoms, protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats. Key indicator: high invertebrate species diversity. **G1O3:** Within intertidal zone and out to 10 fathoms, protect natural size and age structure and genetic diversity of populations in representative habitats. Key indicator: stock assessment of cornerstone invertebrates. **G2O3:** Protect intertidal, shallow subtidal, and nearshore soft-bottom invertebrate species and the habitats on which they depend while allowing the harvest of finfish by hook-and-line through the use of state marine conservation areas. **G3O1:** Ensure some MPAs are close to population centers such as San Luis Obispo, include areas of traditional non-consumptive recreational use, such as beach walking and are accessible for recreational, educational, and study opportunities. **G4O2:** Protect, and replicate to the extent possible, representatives of intertidal and shallow subtidal soft bottom habitats. **G5O1:** Minimize negative socio-economic impacts to recreational and commercial fin fisheries in shallow soft bottom habitats in the San Luis Obispo area while providing protection for invertebrates. Key indicator: recreational use patterns.	White sea bass, CA halibut, Surfperch, Salmon, Clams, Flounder, Rock crab, Sardines, Anchovy, Sea otters
Vandenberg State Marine Reserve	No commercial or recreational fishing permitted, including take of invertebrates.	G1O1, G1O2, G1O3, G1O4, G1O5, G2O1, G2O2, G3O2, G4O2, G501, G502	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in rocky and soft bottom habitats, including tidal flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms. Key indicator: high species diversity. **G1O2:** Protect areas with shale and soft bottom habitat types, including tidal flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms, in close proximity to each other. **G1O3:** Protect natural size and age structure and genetic diversity of populations in shale and soft bottom habitats, including tidal flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms. Key indicator: stock assessments of cornerstone species.	CA Halibut, Greenling, Black, Blue rockfish, Red & black abalone, black, blue, brown, copper, olive, vermilion rockfish, lingcod, cabezon, Greenling, Black, Blue,

			G104: Protect natural trophic structure and food webs in shale and soft bottom habitats, including tidal flats, coastal marsh, and estuary, in depths of 0 to 15 fathoms. **G1O5:** Protect ecosystem structure, function, integrity and ecological processes to facilitate recovery of natural intertidal and shallow subtidal hard and soft bottom communities from disturbances both natural and human induced. Key indicator: assessment of human impacts (nearby consumptive, agricultural runoff, military operations) versus natural (regime shifts, pinniped effects, river/creek runoff). **G2O1:** Help protect and rebuild populations of bocaccio and canary rockfish through protection of their juvenile stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessments of key species. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as brown and vermilion rockfishes, and California halibut, through retention of large, mature individuals. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine reserve areas in nearshore rocky shale and soft bottom habitats to the extent possible, such as the Greyhound Rock SMR and Diablo Canyon SMR). **G4O2:** Protect, and replicate to the extent possible, representatives of shale rock and soft bottom intertidal and shallow subtidal habitat. **G5O1:** Minimize negative socio-economic impacts to local fisheries by creating a state marine reserve in an area of an existing fishery closure (due to military security considerations). Key indicator: socio-economic studies of effects on commercial fishing fleets and infrastructure. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	Copper, Olive, Canary, Brown (Bolina), Vermilion, Gopher rockfish, Cabezon, Lingcod, Black abalone, White sea bass, Flounder, Sanddabs, Surfperch, Salmon, Scorpionfish, Rock crab, Lobster, Squid, Sardines, Anchovy, Sea lions, Sea otters, Elephant seals, Snowy Plover
Vandenberg Danger Zone 4	Commercial and recreational salmon	G1O1, G1O2, G1O4, G1O4,	**G1O1:** Protect areas of high species diversity and maintain species diversity and abundance, consistent with natural fluctuations, of populations in representative habitats by only allowing offshore salmon and crab take. Key indicator: assessment	CA Halibut, Greenling, Black, Blue rockfish, Red &

State Marine Conservation Area	fishing and crabbing allowed.	G2O1, G2O2, G2O3, G3O2, G3O4, G4O2, G5O1, G5O2	of effects of crab and salmon take on overall ecosystem integrity. **G1O2:** Protect areas with shale and soft bottom habitat types in depths of 0 to 40 fathoms (240 ft.), in close proximity to each other. **G1O3:** Protect natural size and age structure and genetic diversity of populations in representative habitats by protecting all benthic species except crab. Key indicator: stock assessment of benthic species. **G1O4:** Protect natural trophic structure and food webs in representative habitats by protecting all benthic species except crab. **G2O1:** Help protect and rebuild populations of bocaccio and canary rockfish through protection of their juvenile and/or adult stages and the habitats and ecosystem functions upon which they rely. Key indicator: stock assessment of key species. **G2O2:** Protect larval sources and enhance reproductive capacity of shallow rocky and soft bottom species most likely to benefit from MPAs, such as brown and vermilion rockfishes, and California halibut, through retention of large, mature individuals. **G2O3:** Protect most soft and hard bottom invertebrate species found within this MPA, and the habitats on which they depend, while allowing the harvest of salmon, Dungeness crab, and Rock crab, through the use of state marine conservation areas. **G3O2:** To enhance the likelihood of scientifically valid studies, replicate state marine conservation areas in nearshore rocky shale and soft bottom habitats to the extent possible, such as the Greyhound Rock SMCA and Diablo Canyon SMCA). **G3O4:** Protect or enhance recreational diving experience by ensuring natural size and age structure of most marine populations found within the area. Key indicator: recreational use patterns. **G4O2:** Protect, and replicate to the extent possible, representatives of shale rock and soft bottom habitat. **G5O1:** Minimize negative socio-economic impacts to local fisheries by creating a state marine conservation in an area of already restricted fishing (due to military	black abalone, black, blue, brown, copper, olive, vermilion rockfish, lingcod, cabezon, Greenling, Black, Blue, Copper, Olive, Canary, Brown (Bolina), Vermilion, Gopher rockfish, Cabezon, Lingcod, Black abalone, White sea bass, Flounder, Sanddabs, Surfperch, Salmon, Scorpionfish, Rock crab, Lobster, Squid, Sardines, Anchovy, Sea lions, Sea otters, Elephant seals, Snowy Plover

			security considerations). Key indicator: socio-economic studies of effects on commercial fishing fleets and infrastructure. **G5O2:** For this and other MPAs in the region, develop a long-term monitoring plan that includes standardized biological and socioeconomic monitoring protocols, and a strategy for MPA evaluation.	